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HERPES ZOSTER: ITS CAUSE, AND ASSOCIATION WITH VARICELLA.

BY

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BEFORE passing to the discussion of the probable cause of herpes zoster and the relation of that disease to varicella, I shall give a short note of cases which have come under my notice. My experience is limited to three observations.

CASE I.

In October, 1915, I was asked to see a gentleman suffering from herpes zoster affecting the skin area supplied by the first division of the fifth nerve of the right side. He had a very severe attack, the whole right side of the face being swollen and oedematous, the right eye completely closed, and the right side of the forehead and anterior part of the scalp covered with a sloughing and suppurating crusted eruption. Although the eyelids were very swollen and the conjunctiva oedematous and injected, there was no eruption on or ulceration of the cornea. The pain was intense, accompanied by sleeplessness and a general feeling of depression. The patient was a strong otherwise healthy man, aged 43. He made a slow recovery, the eye giving trouble for some time. Now (three years later) a scar is visible at the site of the previous eruption, and there is still a considerable degree of anaesthesia of that area. I inquired as to whether he had been in contact with a case of herpes zoster or varicella, but could trace no source of infection. He had never suffered from chicken-pox. Thirteen days after the patient showed the first signs of herpes zoster two of his children developed typical chicken-pox, and a fortnight after that other two also showed the same disease. These children were attending school when attacked, but so far as is known had not been in contact with any case of chicken-pox.

CASE II.

Some months ago a patient under Dr. Norman Walker's charge in the skin wards of the Royal Infirmary, Edinburgh, suffering from lupus vulgaris developed a typical right-sided thoracic herpes zoster. Two days later a child in the same ward suffering from seborrhoeic dermatitis developed chicken-pox. Both these patients had been in hospital for several weeks previously, so that the infection was probably brought into the ward by visitors.

CASE III.

On October 24th, 1918, a child was admitted to the children's ward of the Deaconess Hospital suffering from typical herpes zoster on the right side of the body. On November 12th (that is, nineteen days later) another child in the same ward developed typical chicken-pox. This child had been in the ward since October 21st.

These three observations are very similar to many which have been recorded within recent years. Bókay[31] of Budapest was the first to draw attention to the possible association of herpes zoster and varicella. In 1892 he suggested that the virus of varicella might in certain circumstances, instead of producing a generalized eruption, cause a zoster eruption, and in 1909 he reported further cases (nine in all). In all these nine cases one member of a family or patient in a ward developed herpes zoster, and at intervals varying from eight to seventeen days one or more members of the same household or ward developed chicken-pox. Since Bókay's observations similar cases of herpes zoster followed by varicella have been reported by Hepworth,[1] Orr,[13] Heim,[28] Cressy,[5] Bruce,[5] Roberts,[6] Harrison,[7] Oakes,[8] Coates,[9] Wilson,[10] Milne,[12] Busfield,[14] Bartlett,[16] Coleman,[40] and le Feuvre.[35] The number of such cases must be well over fifty by now. In all, no other source of infection except the herpes was to be found. This is particularly noticeable in le Feuvre's nine cases, some of whom lived in the country many miles from the nearest town. In all the recorded cases the chicken-pox eruption appeared in from eight to twenty-one days after contact with a case of herpes zoster—that is, within the ordinary incubation period of chicken-pox.

The converse condition, namely, a case of chicken-pox followed by a case of herpes zoster, has also been observed, although not so frequently. Such cases are recorded by Dando,[15] Hepworth,[1] Aikman,[34] and Savill.[11] In these cases one member or members of the household had chicken-pox, and another developed herpes zoster later. Assuming the chicken-pox to be the source of infection the herpes zoster developed in most cases in from two to five weeks after exposure to the chicken-pox.

Further, the cases of herpes zoster and a varicella-like eruption occurring in the same individual must be mentioned. Such cases have been recorded from time to time in the medical literature under the title "herpes zoster generalisatus." One of the most typical of these cases is that published by Pernet[26] in which a typical left-sided herpes zoster affecting the third, fourth, and fifth dorsal segments occurred. In addition aberrant vesicles occurred in large numbers on the trunk, limbs, scalp, and face. This general eruption was described as looking like a bad attack of varicella. Parkes Weber,[25] le Feuvre,[35] Colombini,[47] Leredde,[30] Molonié,[48] Haslund,[43] Jeanselme,[32] Ffrench,[20] Arkwright,[29] Beyer,[32] Fasal,[33], Nobl,[37] Minet and Leclercq,[46] Touraine,[44] Tryb,[49] and Fischl,[43] have reported similar cases. In nearly all the herpes zoster appeared first and was followed in four or five days by a general vesicular eruption. In almost all the reports the lesions are described as indistinguishable from those of varicella.

Taking into consideration the facts above stated—namely, (1) that herpes zoster in a household is frequently followed by a case or cases of chicken-pox, (2) that cases of chicken-pox may be followed by cases of herpes zoster in the same house, and (3) that cases of herpes zoster, in addition to the ordinary lesions, may show an eruption similar to chicken-pox—one is almost forced to conclude that these two diseases are probably due to the same virus. I would go further, and suggest that in herpes zoster the infection is probably local, through the nose, along the lymphatics, round the olfactory nerves, as has been shown to be the mode of infection with the virus of anterior poliomyelitis, a disease which has many points of analogy with herpes zoster. Once the virus reaches the meninges and cerebro-spinal fluid it is easy for it to get to the ganglia on the sensory nerve trunks. In chicken-pox there is probably a blood infection with the virus. In the cases which show both herpes zoster and a varicella-like eruption, the virus probably attacks the ganglia first, and thence, four or five days later, gets into the general circulation, producing the generalized eruption.

There are certain facts which point to the eruption in varicella not being, primarily at least, due to the virus settling in the end capillaries of the skin but in the nerve endings or minute nerve twigs in the skin. Microscopically the vesicle in herpes zoster is somewhat similar to that seen in the early stages of varicella. The lesions in chicken-pox often occur in groups, suggesting that a small branch of a peripheral nerve is the seat of a focus of infection. Many of the chicken-pox lesions also show a vesicle with no inflammatory halo around it. This same kind of lesion is seen in pemphigus and dermatitis herpetiformis, which are generally considered to be toxic nerve lesions.

As yet in neither herpes zoster nor varicella has any definite causal organism been discovered. In a list of diseases due to filter-passing ultra-microscopic viruses Flexner in his Huxley lecture[24] mentions poliomyelitis and vaccinia. The first of these is analogous to herpes zoster in many particulars, and vaccinia lesions in their early stages are similar to those of chicken-pox. Therefore it is possible that the virus of herpes zoster and of chicken-pox belong to the same group of organisms.

The question of epidemics of these diseases must now be considered. It is, of course, admitted that chicken-pox occurs in epidemics. Similarly, no one will deny that herpes zoster also occurs in epidemic form. If herpes zoster and varicella have a common origin, one would expect simultaneous epidemics to occur. Unfortunately, there is very little information to be got on this point. The only instance I can find in the literature is that recorded by Heim.[28] He reported simultaneous epidemics of herpes zoster and varicella in Budapest during April and May, 1912. As neither disease is notifiable, statistics on which to base an opinion are wanting, and the fact that Heim's report is the only one on record is no proof that such simultaneous epidemics do not frequently occur.

The question of the immunity produced by an attack of herpes zoster or varicella is important. An attack of chicken pox usually conveys immunity to that disease for life. Similarly, one attack of herpes zoster is rarely followed by another. Most of the recurrent attacks of herpetic eruption are not true herpes zoster due to an acute lesion in the ganglia, but are recurrent attacks of peripheral neuritis due to pressure by a tumour on nerves, causing an eruption in the distribution of these nerves.

If herpes zoster and varicella are the same infection, it might be expected that an attack of the one disease would produce immunity against the other. A certain number of cases are recorded, and I have myself seen one a few days ago, in which an adult, who had suffered from chicken-pox in childhood, developed herpes zoster, so that it must be admitted that an attack of varicella does not necessarily protect the individual against herpes zoster. I can find no record of a case of herpes zoster developing chicken-pox later on, and in no case of herpes zoster associated with a generalized varicella-like eruption has a previous attack of chicken-pox been recorded. That might mean that an attack of herpes zoster protects the individual against chicken-pox, but individuals who have herpes zoster are in many cases past the age when they are likely to take chicken-pox.

Further knowledge on this question of immunity is required. As both varicella and herpes zoster are seen more frequently by the general practitioner than by the dermatologist, much light might be thrown on the subject if practitioners made a point of inquiring in all cases of herpes zoster and chicken-pox as to previous attacks of either disease.

When discussing the cause of herpes zoster the cases which occur whilst arsenic is being taken must not be ignored. In such cases the question arises whether the arsenic produces an arsenical neuritis with the eruption in the distribution of the nerve or whether the arsenic makes the individual's nervous system more susceptible to infection with herpes zoster. The latter would seem to be the more probable explanation, because even although the patient continues to take the arsenic, the herpes zoster runs a normal course, heals up, and does not recur, as one would expect, if an arsenical neuritis were the cause. Further, Parkes Weber[25] reports an instance in which a patient was taking arsenic and developed herpes zoster with a generalized varicella-like eruption, and another patient from the same ward developed chicken-pox fifteen days later. Therefore I am inclined to consider arsenic, like exposure to cold, worry, and so on, as merely a predisposing cause to infection with the unknown virus.

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PUBLIC MEASURES FOR THE PREVENTION OF TUBERCULOSIS.

BY

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THE spread of tuberculosis in any community can only be checked by public measures forming a co-ordinated scheme for attack on the disease. Tuberculosis being to a large extent a disease of ignorance and misery, our efforts to prevent it must be directed towards the social conditions and insanitary surroundings of the poor. It is essential to establish very close co-operation between voluntary action and Government and municipal efforts.

The general measures for the control of tuberculosis may be stated under the following heads:

Voluntary and Compulsory Notification.

Tuberculosis being essentially an infectious disease it is desirable that complete notification of all cases should be made to the officials who are responsible for the public health, so that they may be informed as accurately as possible as to every person infected with the disease.

In England voluntary notification has been superseded by compulsory notification, at least as far as pulmonary tuberculosis is concerned, and although it is open to question whether it is desirable to notify the private patients of a medical man, yet if a certain amount of discretion is exercised there can be no doubt that compulsory notification is in the general interest of the community, although it may press hardly on individuals. An order from the Local Government Board for England and Wales compels the notification of every inmate of a public institution suffering from any form of tuberculosis. This notification must be made on special forms by the physician attending the case; for this he receives the small fee of 1s. As soon as notification is received by the health officer a visit is paid to the home of the patient, and a careful inquiry as to his personal condition and surroundings made. If, in the opinion of the health officer, his home surroundings are such as to make it unsafe for him to remain, power is given to remove the patient to some institution, but this power is very rarely exercised.

In large cities where a great amount of overcrowding exists, the treatment of the advanced case of tuberculosis is of supreme importance. If he is allowed to live in the same dwelling and share the same room as his wife and children, it will almost certainly happen that one or all of his family will become infected. Therefore it is absolutely necessary that he should be removed to some safer surroundings unless he is able to have a room to himself and to look after his own personal cleanliness. It is no use to keep a patient in a sanatorium for six months and then discharge him as incurable, to spend the rest of his life in an overcrowded cottage or tenement where he may spread the infection to a new generation. Provision ought to be made, either by Government or by the municipality, for the detention and comfortable treatment of all cases of incurable tuberculosis. I am not in favour of exercising compulsory powers of removal from a man's own home, but if it is for the protection of healthy people, then removal ought to be made compulsory; but I think it will be some time before public opinion is ripe for such measures.

The health authority will disinfect and clean the clothing and bedding of any notified case, and then will also carefully disinfect the house in which he has lived. Very often the patients complain of this attention to their homes and their clothing, but it is essential that it should be done for the protection of the future residents of the house. It is also the practice to notify to the health authorities any change of address of a tuberculous person, so that they may keep in touch with any house in which he may live.

On the whole, compulsory notification will prove useful in the fight against the disease, but it should only be used in a wise and gentle manner, as otherwise it is liable to cause personal discomfort, and may have the effect of ostracizing the patient from society. If it is pushed too far it may also have the effect of preventing him from earning his livelihood by reason of his fellow-workers having a fear of infection in the workshop or factory. Although many countries are still doubtful as to the wisdom of enforcing compulsory notification, yet from the point of view of suppression of an infectious disease it cannot be denied that with care and consideration the compulsory notification of tuberculosis is bound to do good.

Removal of Affected Children from School and Home.

The medical inspection of school children is now thorough and complete in Great Britain, as in many other countries, with the result that a fair number of children of school age are recognized as suffering from pulmonary tuberculosis, although this number is not so large as one might be inclined to expect. Pulmonary tuberculosis is comparatively uncommon amongst school children; the other forms of tuberculosis are more often seen. A child suffering from open tuberculosis should at once be removed from school, mainly for the protection of the other

children, as it is possible for one child in an overcrowded and badly ventilated schoolroom to infect several of its fellows. In a family the infected child should, if possible, always be provided with separate accommodation; or, better still, removed from the family circle until recovery has taken place; on no account should the child sleep with any other children, or even with its parents.

Treatment of Children in Special Children's Sanatoriums.

The provision of special sanatoriums for children is, I am glad to say, in England making steady and rapid progress; many of these sanatoriums have been provided by the education authorities, with excellent results. It has been found undesirable for children to be treated in a sanatorium for adults; hence it is necessary to provide special institutions for them. The children's sanatorium has the double advantage of continuing the education of the child and at the same time providing the means of cure of the disease. In countries where the climate is more suitable for this treatment a great many such sanatoriums have been provided, and in Great Britain much success has attended their adoption.

Education of the General Public with Regard to the Disease.

The main point in the campaign against tuberculosis must be the education of the general public with regard to the disease. The National Association for the Prevention of Consumption aims almost entirely at this part of the work; it has numerous branches in most of the large cities and towns of the British Isles, where the work of education of the public is steadily pressed forward. A travelling exhibition, provided with models of everything necessary in the treatment of the disease, is constantly moving from place to place; demonstrations are given by competent teachers on the management and nursing of children and the prevention of tuberculosis, and popular lectures are given each evening by experts. In this way an enormous amount of information is steadily disseminated. Education of school children is constantly going on, and the teachers themselves are instructed in the methods of prevention and treatment of tuberculosis. Literature is scattered broadcast throughout the land, and illustrated posters are affixed in every town, so that all possible means are used to convey to the public the information so much required.

Provison of Municipal Dispensaries in Every Community.

The public dispensary has been proved to be of value in the treatment of poor persons afflicted with tuberculosis, and it is suggested that in every town the health authority should provide municipal dispensaries where the poor may receive attention and where the most careful inquiry can be made with regard to their families. The house of every infected person is carefully inspected and the accommodation noted. Advice as to nursing, isolation, and treatment is given in every case, and, where necessary, rigorous action is taken by the health inspectors. In this way it is hoped that every affected person may have the opportunity of receiving advice and treatment, together with assistance to his family if necessary.

In the case of insured persons transferred to a sanatorium under the National Insurance Act, dependants of the family will receive 10s. a week for six months, and, if necessary, further assistance will be given to the affected person. This is a great step in advance, and will undoubtedly induce a great many of the working class to accept treatment in a sanatorium, knowing that their family will be provided for in the meantime.

Provision of Sanatoriums for the Cure of Early Cases.

The provision of sanatoriums for treatment and cure is a vital necessity. Tuberculosis in its early stages responds admirably to sanatorium treatment, and it must be our aim in the future to obtain the cases at the earliest possible moment, so that they receive special treatment with a view to cure, and also receive special education and instruction with regard to their manner of living in the future. The sanatorium itself should be reserved for early cases of tuberculosis; it cannot be expected to do much good in advanced cases, and being of a very costly character its resources should be reserved for hopeful and curable patients. In the national insurance scheme such sanatoriums will be erected in every locality, and every suitable case will have opportunity of cure. The results of sanatorium treatment have been excellent, and it is hoped that they will be still further improved as a better selection of patients is made.

Institutions for Advanced Cases.

In my opinion the most potent factor in the spread of tuberculosis is the advanced case who is not under proper supervision. The man in the final stages of consumption, who is pouring out millions of bacilli from his lungs each day and who has not physical strength to look after himself or take ordinary care, is a serious danger to the community. These are the people who require the most rigorous supervision and who as a rule are neglected by everybody. The late Professor Koch often said that he attributed the steady decrease in tuberculosis in England to the fact that such a large number of advanced cases of tuberculosis were isolated and treated in the Poor Law institutions of Great Britain. This opinion is undoubtedly true; the very fact that so many were constantly segregated must have had a great influence in the decline of consumption. Special institutions should be provided for advanced cases where they may be made comfortable and happy to the end, but it is doubtful if it would be wise at present to enforce isolation of such cases, although I have no doubt that in the future this will have to be done.

Home Training and Supervision amongst the Working Classes.

Tuberculosis being a disease of long standing, those who suffer from it should be instructed in the manner of living at home. The working man or working woman must attend to daily duties, in many cases for years, whilst suffering from the disease; hence the sufferer, if he is to live at home with safety, must know how to protect the other members of the family. There is a strong prejudice in England against the working man using a sputum flask in the workshop or factory, so that there is every temptation to conceal the disease. It is not desirable, however, that a workman should be treated as a leper because he happens to be infected with tuberculosis, otherwise he is in danger of losing his ordinary place in the labour world, and becoming a burden on the community. It is much more necessary that he should be instructed how to take care of his expectoration, and how to prevent the slightest tendency of infection to the healthy members of the community; if this is done there is no reason whatever why he should not attend to his daily work and associate in ordinary social life. There is a great danger of frightening consumptives, and our efforts must be towards removing that fear, and educating the general public in the right direction.

Rigorous Supervision of the Milk Supply.

The question of a pure milk supply is of the first importance in every community, and of urgent importance, as it is the staple food of infants and children. Notwithstanding what has been said by many experts in different countries, there can be no doubt that a large amount of tuberculosis is conveyed to children by infected milk and food. Tuberculosis is very common amongst dairy cows in Great Britain and Ireland—in fact, about 20 per cent. of cattle are infected with the disease at the present time. Cows with tuberculosis of the udder are, however, by far the most dangerous, and hence only about 2 per cent. of the infected cows are highly dangerous to children. It is the practice, however, in this country to mix all the milk from a herd of cows, so that one cow with disease of the udder may contaminate the whole milk supply. Whilst consumption is steadily decreasing in this country, the same cannot be said for tuberculosis in children. A very large number of the lesions occurring in children are the result of infection from tuberculous animals in the form of food, and every step must be taken to prevent such contamination.

Legislation has recently been introduced in England with a view of establishing a pure milk supply; it is proposed that all persons offering milk for sale should be registered and their premises periodically inspected. Every cow supplying milk will be under rigorous inspection

by the health authorities, and compensation will be paid to the owner of any cow which is found to be suffering from tuberculosis. In the meantime the public are advised to sterilize the milk before being given to infants, with a view to destroying tubercle bacilli and other organisms. In Liverpool a great amount of special care has been taken by the health authority to safeguard the milk supply. Special powers have been obtained to inspect the source of all milk coming into the city, and the result has been that I have myself observed a steady decrease in hospital of children suffering from tuberculosis.

The amount of disease conveyed from animals to man seems to vary in different countries. In Scotland there is more than in England; whilst in the British Isles there appears to be more tuberculosis conveyed by milk than on the Continent, where it is almost the universal practice to pasteurize the milk before drinking. Whether this be so or not, we are all agreed that in the campaign against tuberculosis every effort must be made to eradicate the disease from dairy cows. This, I admit, is a very costly undertaking, and millions of pounds would be required to do it effectively in England alone. The scheme suggested by Bang has had excellent results in Copenhagen, and a similar process should be gradually introduced into every country.

Assistance to Family in the Absence of the Bread-winner.

The question of providing assistance to the family in the absence of the bread-winner during his stay in a sanatorium has been to a great extent solved by the provision in the National Insurance Act already referred to, but this work requires further extension, and a central fund ought to be provided in every community for the special purpose of looking after the family when the parent is undergoing cure; otherwise it is impossible to expect him to give himself up to treatment for any prolonged time.

Provision of Suitable Employment in Cured and Arrested Cases.

The question of providing suitable employment for cured cases, and for those in whom disease is arrested, is one of great difficulty, although of immense importance. Very many private employers are now giving such workers out-of-door, easy employment, as it is only in this way that they can be expected to remain well and fight the battle of life. We wish to extend this practice, and appeal confidently to those employers of labour who have the opportunity of making such provision for their workers.

By adopting a combination of measures such as those enumerated, we can confidently hope slowly but surely to exterminate the disease which ought not to be in our midst, but is provoking such an amount of havoc, misery, and loss of human life. The new Ministry of Health, by co-ordinating and controlling all the necessary measures for the prevention and control of tuberculosis will be the means of saving an enormous amount of suffering and wastage of valuable human lives.

An Investigation

INTO

THE INCIDENCE OF ALBUMINURIA AND CASTS IN BRITISH SOLDIERS DURING TRAINING,

*AND THE RELATIONSHIP OF THIS CONDITION TO WAR NEPHRITIS.**

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THE question of the incidence and significance of albuminuria in the soldier has in the past received very little attention, and the literature contains but scanty information as to the extent to which kidney deficiency is present in the army. Though the recruit is supposed to be physically fit, little provision is made for the testing of his renal function at the time of his medical examination, with the result that the milder cases of nephritis without objective symptoms are likely to be drafted into the army. The outbreak of acute nephritis (so-called war nephritis) which began at an early stage of the war and still continues, rendered it necessary to investigate more fully the incidence of albuminuria and possible kidney lesions in the fighting forces, and it was in this connexion that the present investigation was carried out.

The original idea was to examine the urines of large numbers of men before they took part in active operations, and later on to correlate the information gained with the official returns of nephritis obtained from these men. It would thus be ascertained whether or not the majority of the cases ultimately returned as suffering from war nephritis had albuminuria at an earlier period. Such an investigation, though difficult and laborious, was obviously essential if any real light was to be thrown on the etiology of war nephritis, for in each case of nephritis that appeared one was always confronted with the unanswerable question: Has he had some kidney defect previously, and is this merely an exacerbation brought on as the result of the conditions of warfare, or has it arisen *de novo*? In the majority of cases an answer to this question could not be furnished by any clinical observations made on the patient while actually suffering from the disease, for the problem of pre-existent renal trouble is a most difficult one, and in many cases incapable of solution. It is perhaps not sufficiently recognized that renal disease may be present with few or no clinical symptoms, though evidence can often be obtained by careful laboratory investigation. On the other hand, it is now acknowledged that an acute attack may in a short time result in certain cardiac and other changes strongly suggestive of chronic disease.

If, however, it were found that the great majority of war nephritis cases were suffering from albuminuria when examined at an earlier stage, then one might say with confidence that war nephritis was probably dependent on a pre-existing kidney lesion, which, though perhaps originally slight in degree, yet gave rise to an acute inflammatory process as the result of the necessary exposure and fatigue of the campaign.

The question of the possible relationship of albuminuria to war nephritis was, however, only one of the many points on which it was hoped to obtain much-needed information. Various problems, such as the effect of training, the part played by previous diseases, the influence of age and other factors on albuminuria, were investigated.

In all, 60,000 men were examined. Of these, the first 50,000 were men who had finished their course of training in England and had come to a base in France for a short period—generally nine or ten days—to complete their training before going to the front. Some of these, of course, had been in the line before, and were returning after being wounded or sick, but these constituted only an insignificant proportion of the total. The last 10,000 men were examined at Aldershot, and chiefly represented recruits who had undergone little or no training. They gave practically similar results to the other 50,000.

General Procedure in Examination and Collection of Urine.

In any investigation of albuminuria it is necessary to ensure the collection of specimens under suitable and comparable conditions. The incidence of albuminuria in a group of soldiers is often increased by as much as 100 per cent. or more as the result of a few hours' active exercise, so that a series of samples taken from the same men in the morning and at night would show very marked differences. Specimens should always be taken in the morning, since in this case the results are comparable, and really indicate the minimum incidence of albuminuria in any group of men at a given time. All the urines examined were, therefore, taken early in the morning, and, where possible, consisted of the first specimen passed. Various special arrangements, which need not be detailed here, were necessary to obtain particulars of the men for future identification.

Tests used for Protein and Methods of Grading Urines according to Amount of Albumin.

The testing reagent used in this investigation was salicylsulphonic acid. Of all the protein tests this is undoubtedly one of the most reliable and delicate; it is so easily applied that

* Summary of a report to the Committee on War Nephritis of an investigation carried out under the auspices of the Medical Research Committee.

any intelligent orderly can be taught to use it in a very short time, and it gives very accurate results. In the rough preliminary testing, six drops or more of a saturated solution of salicyl-sulphonic acid in distilled water were added to about half an inch of urine in an ordinary test tube. In urines containing a considerable amount of protein a dense white precipitate was at once formed, but any urine giving the faintest opalescence with the reagent was provisionally taken as positive.

In the laboratory the positive specimens were further examined by means of salicyl-sulphonic acid, and, in cases in which any doubt arose, by heat coagulation and by cold nitric acid as well. A rough estimate of the amount of protein present was made, based on the amount of precipitate obtained with salicyl-sulphonic acid. For convenience in tabulating results, six different grades of albuminuria were recorded as A, B, C, D, N, NN; these letters refer roughly to the quantities of albumin indicated in the table.

TABLE I.

Grade.	Rough General Description of Precipitate as given by Salicyl-sulphonic Acid.	Rough Quantitative Estimation of Amount of Protein Present.
A.	Very marked	200 to 300 mg. or more per 100 c.cm.
B.	Marked	80 to 200 mg. per 100 c.cm.
C.	Fairly well marked	20 to 80 mg. per 100 c.cm.
D.	Very distinct	5 mg. or less to 20 mg. per 100 c.cm.
N.	Faint	—
NN.	Faint trace	—

As no exact quantitative estimations were possible, it is obvious that the above grades of albuminuria are only rough general indications of the amount of protein present. In urines marked A, B, and C, the protein reaction was always well marked, and in D it was always quite distinct, so that a definite positive result was obtained by the ordinary tests (heat coagulation and cold nitric acid tests) as well as by salicyl-sulphonic acid. Urines of grade N sometimes gave the heat coagulation test directly, but more often after the addition of salt and of a trace of acid in some cases. In grade NN no definite results were generally obtained either on boiling or by the cold nitric acid test, though salicyl-sulphonic acid gave a definite slight opalescence. It is, of course, possible that not all the urines in the lower grades contained true protein; they are indicated here merely as giving results with salicyl sulphonic acid.

In short, any urine of grades A, B, C, D contained sufficient protein to give a definite well marked reaction with any of the ordinary protein tests, while grades N and NN did not generally do so unless very carefully examined, and even then, in NN samples, negative results were the rule.

INCIDENCE OF ALBUMINURIA IN 50,000 MEN EXAMINED AT THE BASE.

All the men examined were, of course, marked "Active Service," and at the period of examination were undergoing a fairly strenuous course of training. The investigation took place during the summer months; it began about the end of May and was completed about the beginning of October, 1917.

In certain cases of albuminuria the presence of spermatozoa or pus in the urine indicated at once the probable cause, but it is important to note that in several cases definite epithelial, as well as hyaline, casts were present. It is generally stated that when spermatozoa are found in the urine certain bodies closely resembling hyaline casts are also met with. As these bodies do not come from the kidneys they are of no significance, but it is often very difficult to distinguish between such bodies and the delicate clearer variety of hyaline cast. When epithelial casts are present, however, there can never be any doubt as to their origin. In order to make all allowances for complications of this kind, the total number of men suffering from albuminuria of all varieties was ascertained, and the cases showing any possible cause for the presence of the albumin were noted. The examination of the morning specimens of urine certainly suffers from the disadvantage that spermatozoa are fairly common, but as these bodies are easily found on examination with the microscope, the condition does not give rise to any great difficulty.

The men were examined in groups of 10,000; the various results are recorded in Table II, in which the intensity of the albuminuria is also indicated. It will be seen that the comparable figures obtained in the different groups agree remarkably well on the whole.

Roughly speaking, the total percentage of albuminuria unaccounted for by any of the conditions already mentioned (pus, spermatozoa, blood, etc.) was found to be about 5 per cent.; of this, only about 2 per cent. represented gross albuminuria of the A, B, C, D grades, while the other 3 per cent. was of the less marked variety.

The actual figures in the 50,000 men were as follows:

Total number with albuminuria	= 6.48 per cent.
Number with albuminuria after allowing for pus, spermatozoa, etc.	= 5.62 ,,
Number with gross albuminuria (A, B, C, D grades)	= 2.55 ,,
Number with gross albuminuria after allowing for pus, etc.	= 2.19 ,,

TABLE II.—*Showing Incidence of Albuminuria in each of Five Groups of 10,000 Men Examined.*

Groups of 10,000 Men.	Percentage of Total Number with Albuminuria.	Percentage with Albuminuria after Allowing for Pus, etc.	Percentage with Gross Albuminuria (A, B, C, D Grades).	Percentage with Gross Albuminuria after Allowing for Pus, etc.	Percentage with Slight Albuminuria (N and NN Grades).	Percentage with Slight Albuminuria after Allowing for Pus, etc.
Group 1 ...	5.88	5.26	1.80	1.63	4.08	3.63
Group 2 ...	6.53	5.81	1.77	1.53	4.76	4.28
Group 3 ...	6.95	5.85	3.02	2.50	3.93	2.35
Group 4 ...	6.27	5.05	2.78	2.23	3.49	2.82
Group 5 ...	6.77	6.16	3.40	3.08	3.37	3.08
Average ...	6.48	5.62	2.55	2.19	3.92	3.23

On account of the large numbers of men examined the results obtained may be taken as a measure of the incidence of albuminuria in the British army during training. Our information regarding the incidence of albuminuria among soldiers in the trenches is very scanty, but, according to Ameuille and MacLeod,[1] appear to be more or less of the same order as was found in the present investigation.

PRESENCE OF CASTS IN ALBUMINOUS URINES.

All the specimens of urine which contained albumin were examined for casts. About 25 c.cm. of urine were centrifuged for a few minutes and the deposit examined under the microscope. As the vessels containing the urine had generally stood for several hours before the examination for casts could take place, most of the solid constituents present were by this time in the lower layers of the urine or on the bottom of the vessel. The upper layer of urine was therefore poured off as carefully as possible, and when only about 30 c.cm. to 40 c.cm. remained, this was shaken up and 25 c.cm. used for centrifuging.

In examining the deposit it was found most convenient to pipette about ½ c.cm. of material from the bottom of the centrifuge glass, and to spread this in a thin layer over the greater part of an ordinary microscope slide. It was then examined quickly with a low power. When necessary, for purposes of identification of casts and their structure, higher powers were employed.

Almost all the casts found were either epithelial or of hyaline nature; very few blood casts were encountered. The epithelial casts varied much in the stage of degeneration presented by the epithelium, but the majority of them showed the usual appearances seen in acute nephritis, where the outline of the individual cell is often fairly distinct. The hyaline casts also comprised many of the ordinary clear ill-defined variety, but a very considerable number were definitely granular in structure, and might be referred to as hyalo-granular casts. All stages of granularity, from many comparatively large well marked particles to a very few small ill-defined granules, were observed, but in all such cases the matrix of the cast presented a definite hyaline appearance.

For statistical purposes the casts were therefore divided roughly into two classes, epithelial and hyaline, and were characterized entirely on the appearance presented by

unstained specimens, since the large number of deposits examined did not permit of a more detailed examination.

In the great majority of cases where epithelial casts were present, hyaline casts were found as well, but in many specimens hyaline casts alone were found. While many authorities believe that the presence of epithelial casts—at any rate, in moderately large numbers—is pathological and indicates some definite lesion of the kidney, it is often supposed that the hyaline variety is of little significance. From what we see, however, in the urines of patients who are suffering from acute nephritis, it is certain that the hyaline variety may in many cases be the only casts present. In such patients, even when the disease is well marked, as indicated by the usual symptoms, it often happens that the urine contains only a few small hyaline casts, while in other cases very large numbers of this variety of cast may be present. On the other hand, it may be quite impossible to find epithelial casts.

The presence of casts was by no means confined to urines exhibiting a high grade of albuminuria, for, in several cases, urines with only a trace of albumin contained large numbers of epithelial casts, while in other cases many hyaline casts were found. Such results are by no means rare in ordinary practice where they are generally associated with a condition of chronic interstitial nephritis. In practically all such cases which the writer has seen in hospital practice the kidneys were found to be markedly defective, as indicated by the diastatic test. In the cases found in soldiers in France, however, the combination of large numbers of casts with mere traces of albumin was not apparently associated with any appreciable degeneration of the renal tissue, for the diastatic reaction was normal in the great majority of the cases in which it was used. The very large numbers of urines dealt with in this investigation precluded the possibility of applying this test to all such urines, but a considerable number were examined. With the exception of a very few cases, the diastatic reaction was between 15 and 25—figures practically identical with those obtained from normal urine.

It is not improbable that casts may sometimes occur in urines which are free from albumin, but it is certain that this is very rare, for in 100 specimens of normal urine examined no casts of any kind were found. This view is further borne out by the fact that the percentage of urines with a very small amount of protein which contained casts was comparatively small; in this connexion it was observed that urines which gave only an exceedingly faint reaction with salicyl-sulphonic acid (certain of the urines of grade NN) rarely contained casts. In no case were epithelial casts found in such specimens, and in the few cases in which hyaline casts were observed the number was usually limited to one or two. In order to settle the question definitely it would, of course, be necessary to examine several thousands of protein-free urines, but there was no time for this during the present investigation.

With regard to certain of the urines stated to contain hyaline casts only, it is possible that a few of them might have contained a very small number of epithelial casts as well, but it is certain that this could be the case only in a very few instances, since the examination for casts was carried out very carefully, several specimens of deposit from the same urine being sometimes examined.

Occasionally a few blood casts were found associated with epithelial casts, but the former were of such infrequent occurrence that no special record of them was kept.

Along with casts several other elements were found in the deposits, but nothing abnormal was observed. The extremely common occurrence of calcium oxalate crystals, which at some periods were present in large amount in almost every urine examined, is perhaps worth noting. No explanation of this phenomenon could be found in the nature of the diet partaken of at the particular period.

General Results Obtained.

For the 50,000 men examined, the average percentage of urines found to contain casts was 1.87; of this number 0.84 per cent. had definite epithelial casts, while in 1.03 per cent. hyaline casts only were found. The percentage of casts in the various groups of 10,000 men is indicated in Table III. It will be seen that the figures in the different groups correspond fairly well.

TABLE III.—*Percentage of Casts in Five Groups of 10,000 Men each.*

	Percentage with Casts.	Percentage with Epithelial Casts.	Percentage with Hyaline Casts.
1st group of 10,000 men ...	1.60	0.75	0.85
2nd ,, ,, ,,	1.52	0.88	0.64
3rd ,, ,, ,,	2.01	1.00	1.01
4th ,, ,, ,,	2.13	0.9	1.23
5th ,, ,, ,,	2.10	0.65	1.45

As might be expected, the percentage of albuminuric urines containing casts was highest in those cases where the albuminuria was well marked. Thus, in the 50,000 cases, the percentage of albuminous urines of grades A, B, C, D containing casts was 44.6, while of grades N, NN, only 20.3 per cent. had casts.

TABLE IV.—*Percentage of Albuminuric Cases showing Casts in Different Grades of Albuminuria.*

1st 10,000 ...	Grades A, B, C, D, 50 %	Grades N, NN, 17.1 %
2nd ,, ... ,, ,,	50.1 %	,, ,, 15.7 %
3rd ,, ... ,, ,,	37.0 %	,, ,, 22.6 %
4th ,, ... ,, ,,	46.4 %	,, ,, 24.0 %
5th ,, ... ,, ,,	39.5 %	,, ,, 22.5 %

Observations on the Amount and Probable Significance of Casts found in Urines.

In certain of the specimens containing casts only very few casts were actually found. Thus, in the case of the epithelial variety, only one or perhaps two were identified in certain urines, while it was fairly common to have urines showing only two or three hyaline casts. As already stated, the significance of the presence of a very small number of hyaline casts is obscure, and the truth probably is that such findings may in certain cases denote definite pathological changes in the kidneys; in other cases they are of little significance. On the other hand, a urine containing albumin, together with epithelial casts in moderate or large numbers, must be regarded with suspicion, and almost certainly denotes, in the great majority of cases, that the renal tissue is the seat of some inflammatory condition which may be progressive in nature and may ultimately lead to well defined renal disease.

From this point of view it was of interest to ascertain the number of cases in the 50,000 men examined which gave urines showing albuminuria and large numbers of casts. Naturally, the figures obtained are liable to considerable variation, since the personal factor plays a great part in estimating what is to be considered as "large numbers" of casts. Probably the best method would be to count the casts in a given number of fields of the microscope, having previously taken the necessary precautions for ensuring approximately accurate results. This, unfortunately, was impossible in the present investigation, as the necessary time could not be afforded. An attempt, however, is made in the following table to indicate as nearly as possible the number of men whose albuminous urines contained casts in sufficient numbers to arouse suspicion. In cases where many hyaline casts were found accompanied by only one or two epithelial, the casts are classified as "hyaline."

TABLE V.—*Number of Men in 50,000 Examined whose Albuminous Urines contained large numbers of Epithelial or Hyaline Casts.*

Epithelial casts in large amount	271
Hyaline casts in large amount	279
Total with epithelial and hyaline casts in large amount	550
Percentage with epithelial casts in large amount	0.54
Percentage with hyaline casts in large amount	0.56
Total percentage with casts in large amount ...	1.10

General Results.

From Table V it appears that the total number of men who had albuminuria together with moderate or often large numbers of epithelial or hyaline casts was 550. Of

these, 271 had epithelial casts, while in 279 cases the casts were chiefly of the hyaline or hyalo-granular variety. If the results of the examination of the urine for albumin and casts have any significance, it appears certain that the minimum number of men suffering from definite renal deficiency in the 50,000 cases examined was 550. From this it is probable that the "active service" part of the army contains, during training, at least 1.1 per cent. of men whose kidneys are inefficient and who are suffering from some degree of disease more or less marked.

Since the total number of men suffering from albuminuria accompanied by casts was 936, this number indicates the maximum number of men who gave any indication of kidney disease as the result of examination of the urine. No doubt many of the urines containing only a few hyaline casts were healthy specimens; but, on the other hand, it is exceedingly probable that certain urines containing a few casts were found negative on examination, as it is not always easy to find casts unless they are present in moderate numbers, when there is, of course, little chance of overlooking them. Since, in some of the cases in which casts were apparently absent, the kidneys were probably not quite normal, one may provisionally accept the view that the specimens of urine containing small numbers of hyaline casts, which were not the result of kidney disease, were balanced by the urines from defective kidneys in which no casts were found.

That the renal tissue may be defective and the urine practically free from casts is proved by the fact that cases of acute nephritis may, on convalescence, show neither albumin nor casts, and yet the kidney efficiency as indicated by the diastatic reaction may be very low.

Taking all these points into consideration, we arrive at the conclusion that at least 1.1 per cent. of men on active service are probably suffering from some degree of more or less chronic renal disease, while the maximum number giving any indication of renal deficiency by the ordinary examination is 1.88 per cent.

In round numbers it is possible to state with certainty that not more than 2 per cent. of men give any definite indication of kidney disease, if we allow that kidney disease in general is associated with the presence of albumin and casts in the urine. Fairly definite signs of disease are found in about 1 per cent. of men.

As practically all the men examined had a minimum of four months' training and the great majority of them had over twelve months, it would appear that the presence of albumin and casts in the urine is no indication that the individual is incapable of severe and prolonged exertion.

Relation of Length of Service to Incidence of Albuminuria and of Casts.

One of the most important features of the present investigation was to ascertain whether or not the general conditions associated with training for active service tended to have a detrimental effect on kidney efficiency as indicated by the ordinary examination. It is almost certain that any appreciably injurious effect on the renal system brought about by training would be indicated by an increase in albuminuria, if not in the incidence of casts as well. The longer the soldier had been in training the greater should be the amount of albumin found. The importance of ascertaining definitely the effects of training is obvious, since we have here the total result of many factors, such as exposure, severe exercise, food, etc. If it were found that albuminuria steadily increased with the length of service, it would be necessary to analyse these different factors and find out, if possible, the particular cause of the condition.

Fortunately, the problem of the relation of training to kidney efficiency no longer presents any difficulty. Training has no influence whatever either in increasing albuminuria or in causing existing albuminuria to become more marked. Further, the incidence of casts does not increase with length of training. The evidence on which these statements are based is supplied in Table VI.

The men examined were Number 3, 4, and 5 groups already referred to, each group consisting of 10,000 men. No account was taken of men with less than three months' service, since the numbers in this category were too small to be of any importance. Owing to this cause, and the fact that it was impossible, in a very few cases, to ascertain the exact period of service, the actual numbers indicated in each group always fall a little short of 10,000. The total number of men actually examined in this investigation on the effect of training amounted to 29,607. For each group of approximately 10,000 men the total period of service up to thirty-three months is given. Those with a longer period of service than thirty-three months are grouped together, while, as already stated, the few with two months or under are omitted. The total amount of albumin, as well as the incidence of well marked albumin and of casts, is given for each period.

Reference to Table VI shows that the average number per 1,000 suffering from albuminuria in men of from three to seven months' service was 69. For each successive period of five months the numbers are exceedingly close, being 69, 71, 68, 73, 62, and 61 per 1,000.

There is neither an increase nor appreciable decrease of total albuminuria with length of training, but the incidence remains practically constant. This would seem to show that training plays no part in the etiology of this albuminuria, and the probability is that the same incidence exists in civil life.

It might be argued, however, that an increase in the *total* albuminuria might not be expected, since the kidneys which were susceptible to the conditions under discussion would have been already injured in the first two months of training before the men came to France. It might also be argued that kidneys which were not affected in the early period of training were not susceptible, and were sufficiently resistant to withstand any injurious factors associated with training.

On this hypothesis an increase in the total albuminuria would not be expected; but, on the other hand, an increase in the severity of the albuminuria in cases already affected would certainly be looked for. The severity of the albuminuria, however, does not increase. Taking the grades A, B, C, D as indicating well marked albuminuria, the average numbers exhibiting this degree of albuminuria in successive periods of five months' training are 34, 31, 30, 31, 36, 35, and 29 per 1,000. Here again there is neither increase nor decrease, but a constant incidence.

Apparently, service conditions neither originate albuminuria to any appreciable extent nor do they aggravate already existing albuminuria.

Further, the number of urines containing casts remains practically constant during training, the figures for successive periods of five months being 24, 27, 29, 20, 31, 22, and 22 per 1,000.

These results give a final answer to the question of the effect of severe conditions as seen during training on the incidence of albuminuria and of casts.

It appears fairly certain that training is not responsible for the production of any injurious renal effects, for if training entailed conditions actually detrimental to the kidney, one would at least expect some increase in the severity of pre-existing albuminuria.

No doubt, after severe and sudden exertion protein does appear in the urine, but it seems to be a merely transitory phenomenon which soon disappears on resting; it does not appear to exhibit any tendency to become permanent even after thirty-six months or more of training. Pre-existing albuminuria also may be aggravated after severe exercise, but the fact that severe albuminuria is not more common

TABLE VI.—*Incidence of Total Albuminuria, Well Marked Albuminuria (A, B, C, D grades), and of Casts in Three Groups of Men at Different Periods of Training.*

(Total number of men investigated = 29,607.)

Period of Training in Months, Inclusive.	No. of Men.	Total Albuminuria. Average per 1,000.				Well Marked Albuminuria. Average per 1,000.				Casts. Average per 1,000.			
		Group 1.	Group 2.	Group 3.	Average.	Group 1.	Group 2.	Group 3.	Average.	Group 1.	Group 2.	Group 3.	Average.
3 to 7 ...	4,820	62	68	79	69	27	33	43	34	13	17	43	24
8 to 12 ...	4,121	85	57	66	69	34	30	30	31	31	20	30	27
13 to 17 ...	3,743	82	62	69	71	26	27	37	30	27	23	37	29
18 to 22 ...	3,175	78	53	73	68	38	24	31	31	16	14	31	20
23 to 27 ...	2,875	66	73	77	73	30	39	40	36	20	34	40	31
28 to 32 ...	2,660	61	68	54	62	38	37	32	35	14	22	32	22
33 and over	8,213	61	61	61	61	28	28	30	29	18	19	30	22

after thirty-six months' service than it is after three months, indicates that in these cases as well this increase is transitory; on resting, the albuminuria soon returns to its old level.

Results of Investigation into the Possible Relationship of Previously Existing Albuminuria to War Nephritis.

Out of the 50,000 men examined only 161 cases were returned up to March, 1918, as possibly suffering from nephritis. In 29 of these the diagnosis was doubtful, as they were returned as suffering from "albuminuria." In the remaining 132 a diagnosis of nephritis was ultimately obtained in all cases, though in several of these the preliminary diagnosis was also "albuminuria"; in these patients, however, the diagnosis at the base hospitals was "nephritis." It is therefore fairly certain that at least 132 cases of definite nephritis were returned from among the group of 50,000 men previously examined for albumin. As certain of the other 29 cases were also, probably, suffering from nephritis, the total 161 cases may be taken as the maximum number of individuals who developed nephritis within nine months after being examined at the base. It makes little or no difference to the ultimate result whether or not a few of these were erroneously diagnosed. Indeed, there is no reason to suspect that in the great majority of cases there was any doubt as to diagnosis, but, in any case, this factor could not possibly be of sufficient importance to make any real difference to the conclusions based on the returns.

Out of the 161 patients returned as nephritis or albuminuria, only 28 suffered from albuminuria just before going to the front. Of these, 7 had epithelial and hyaline casts, while 8 had hyaline casts only. The exact results obtained together with the grade of albuminuria found, are given in Table VII.

TABLE VII.

Total number of men returned as nephritis or albuminuria	161
Number free from albuminuria when previously examined at base	133
Number with albuminuria when previously examined at base	28
Grade of albuminuria in the 28 positive cases:	
Grade A	2
Grade B	2
Grade C	1
Grade D	6
Grade N	7
Grade NN	10
Total number with casts	15

Thus, out of the total 161 returns only 17.4 per cent. had albuminuria when examined a few months before they developed nephritis, while only 9.3 had both protein and casts.

Out of the 29 cases returned as "albuminuria," 20 were free from protein when previously examined at the base. Nine had albuminuria, 4 of these having definite epithelial and hyaline casts, while one showed hyaline casts only. The grade of albuminuria in these cases was as follows:

A=0. B=1. C=1. D=0. N=3. NN=4.

From these results it is fairly certain that some of these cases at least were suffering from nephritis though returned as "albuminuria."

Taking all these results together, it is now proved that the great majority of the cases that return from the front area as war nephritis do not show albuminuria a few months before contracting the disease. It would therefore seem that previous albuminuria plays little or no part in the etiology of war nephritis. The disease arises *de novo*, and is not an aggravation of some pre-existing kidney defect the presence of which can be ascertained by any of the ordinary methods of examination.

REFERENCE.
[1] *Lancet*, September 9th, 1916.

THE POLICY OF THE OSTRICH.

BY

COLONEL J. G. ADAMI, F.R.S.,

OFFICE OF D.G.M.S., OVERSEAS MILITARY FORCES OF CANADA.

ON New Year's Day I was sitting after lunch with an old friend, in London for the war, who before he joined up enlivened his work as lawyer and financial adviser with an occasional incursion into literature. The afternoon he told me, was his; the Government department which had been so fortunate as to secure his services was being demobilized. Asking him what he proposed to do next, "I am thinking," he said, "of retiring to some quiet spot and putting together a collection of essays upon the 'Dead Hand.' Returning to the Old Country after all these years, more and more each day there is being borne in upon me the extent to which the dead hand of tradition and customary point of view presses upon society and represses logical and needed advance in every direction." And forthwith he launched upon a succession of modern instances.

PHYSIOLOGY AND SOCIAL DUTY.

I could not wholly follow him when he touched upon sexual relationships: with him I had to admit that physiologically the human male is intended to be polygamous, whereas the social code demands that he be monogamous. But his deductions that therefore the social code was wrong, and that we should acknowledge and admit polygamy, failed, as I pointed out to him, to take into consideration the fact that the family constitutes the unit of society, our whole social and moral code being erected upon that foundation. Polygamy, I continued, has in the past been tried and found wanting, and to-day the Mohammedan nations which give a legal sanction to polygamy are nevertheless in general reverting to monogamy; the social environment of man to-day appears to demand that he be the husband of one wife. The real difficulty lay, not in society, but in the fact that man has not yet become physiologically adapted to his social state: the good of the family indicates one course of conduct, man's constitution impels to another. It is an evidence of progress that, as a community, we place the benefit of the family before the desires and comfort of the individual; but doing this, we are placed in the dilemma that the performance of physiological function, save under the aegis of monogamic marriage, becomes regarded as anti-social, and that an act which the individual in his heart of hearts knows to be in itself natural and desirable has to be regarded and taught to be contrary to good morals. We find ourselves torn asunder between Peter and Paul: the Peter that is within us teaching that what God has given us is clean and to be enjoyed; the Paul, that woman is a snare, and that even a bishop should have but one wife—and scarcely that. And as youth is largely irresponsible, and the sense of social duty is a plant of slow growth, which in some is throughout life choked by the weeds of personal predilection, it has followed that the whole matter of sexual conduct has for generations been surrounded with an atmosphere of insincerity, not to say hypocrisy. We give lip service to public duty; the majority of us strive to uphold the social law, but I imagine that even the best of us, be it in thought, word, or deed, cannot as men wholly throughout our lives escape from the dominance of our natural passions—that is, if we are real men, healthy and virile.

It is the knowledge of this insincerity, which in the past has permeated the whole treatment of the matter, that makes it so difficult for most of us to take up the public discussion. In its incapacity to reconcile the physiological and the moral aspects of the subject, the British public and its leaders have sought the solution of silence—of proceeding as though the problem did not exist; they have written themselves down—ostriches. Here it is that the "dead hand" comes in—the dead hand of a training begun in early childhood, whereby we have been taught to regard the open discussion of sexual matters as "taboo"; the "dead hand" of school-boy "form," according to which public acknowledgement of one's standing in relationship to moral matters, save on the part of those who have donned the cloth and become professional moralists, brands one as either a prig or a humbug.

Happily we are passing out of this phase. The work of the Royal Commission on Venereal Disease, and now the forcible and courageous pronouncement regarding syphilis made recently by the *Times* heralds the ending of the old régime of silence, concealment, and taboo.

VENEREAL DISEASE IN THE ARMY.

What this policy, this submission to the dead hand of custom, has cost the army and the country during the last four years is awful to contemplate.

For our salvation as a nation and an empire we have needed the services of every available man—have needed them at the height of their physical capacity. Time and again during the last four years, owing to our want of man power, it has seemed that the greater concentration of the enemy forces must result in a break through our lines and bring ruin to us. Even without such a break our losses in man power have been large, and to-day it is the A1 men who have survived whom we most need to be the fathers

of sound and fertile families if the country is to maintain its ascendancy in industry and influence—those men we need sound and not infected.

But what has actually happened? Year by year before the war the annual report of the Director-General warned the Government as to the prevalence of venereal disease in the army; a quarter of all admissions to hospital was due to this. No other conditions in peace time competed with the venereal diseases in lowering the efficiency of our soldiers, and it was a commonplace of military knowledge that in war time the prevalence and the loss of efficiency from this cause had in the past undergone a rapid increase. Lord Kitchener, it is true, in a notable communication addressed to the soldiers of the little old army, asked them to respect the womankind of our allies, but not a step was taken to protect our men at home. With camps being created all over the country, no steps were taken to render the regulations against harlotry more rigid. Our men have throughout the war been in venereal hospitals, not by companies, but by battalions. Each case has meant two months or so on the sick list, and weeks and months before the individual has been restored to full vigour at the front, if, indeed, there has not been left a legacy of rheumatism, eye disease, or general enfeeblement.

The Royal Commission and the National Council.

The policy of the ostrich was maintained. Before the war the Government had appointed a Royal Commission upon Venereal Disease, and having done this appeared to think that it had more than done its duty. But the report of that Commission had little to do with war and the soldier. Do not misunderstand me: the National Council for Combating Venereal Diseases accomplished a notable work in strengthening the hands of the Royal Commission. The Royal Commission performed a service of the first order, and the Government did well in acting immediately upon the report; but the report and the Act did not contemplate war conditions and the soldier. This I know, that when in the autumn of 1914 the first Canadian contingent arrived upon Salisbury Plain it very rapidly found that the common law of England and military law were equally impotent to cope with the condition of affairs revealed. Here again do not misunderstand me. I do not mean to suggest that whatever the good women at home may have thought regarding the virtue of their sons and the vice of the British harlot, the Canadian soldier was either better or worse than the British, or the Australian or the New Zealand soldier. Let me be perfectly frank. We have as a matter of fact discovered that of the cases of venereal disease among Canadian soldiers admitted to hospital in England when new drafts were being periodically received from across the Atlantic, as high a proportion as 25 per cent. of all admissions were of active infection acquired in Canada—were admissions from the new drafts. But what I mean is that the heads of the Canadian service here in England were responsible to the Canadian people for preserving the health of their men; they were responsible to the mothers of Canada. To their surprise they found that harlotry in England is a protected profession—but not controlled. Here again let me be quite open. We have the same situation in Canada, the same policy of silence and tacit sanction by the police. But we are waking up, and the reports of the Commission of Conservation upon conditions in Toronto, and of the Committee of Sixteen upon vice in Montreal, have profoundly moved all sections of society. But in England in war time, I confess, that the Canadian authorities expected immediate and willing help from the local and London authorities, and help there was little. Each week-end there poured into Salisbury from London from eighty to one hundred loose women; the railway company was impotent to prevent them journeying; the police at Salisbury could not turn them out of the town; the Wiltshire magistrates could or would do nothing; at most the military police could declare houses of ill fame within the actual camp area out of bounds, and turn women out of the camps proper. It took the better part of two years before the Government utilized the powers granted by the Defence of the Realm Act, and in one special military area where there had been a large outbreak of venereal disease, empowered the competent naval or military authority to transport out of the area those directly or indirectly concerned in the profession of prostitution. In the meantime all that that most admirable association, the National Council for Combating Venereal Diseases, could suggest was—talk: the provision of lectures and the instruction of the soldier—this along with the provision of opportunities for recreation. I believe that I am correct in saying that it took them the better part of three years before they openly recommended their lecturers to advise early preventive treatment after the act, so heavily did the dead hand of Mrs. Grundy press upon them.

I shall never forget my attendance along with my chief at a meeting of that society in 1916. Perhaps some of you have heard the story of how, at the beginning of last century, grave accounts reached Edinburgh regarding the drunkenness of the further Highlands, and of how the General Assembly determined that it was their duty to send north a missionary to preach temperance. And the missionary went, and in due time returned and appeared before the Assembly. Said he, "I have had gran' success!" Said the Moderator, "What mean you by grau' success?" "Weel," replied the missionary, "ye must know that I found the seetuation simply awfu'; but I wrastled with the puir misguidit folk, and as a result of me meenestrations they have sworn to ameliorate their habits, and no' to tak' mair than one dram of whusky before breakfast the morn." The worthy chairman at this meeting—now no longer with us—told in all seriousness the anxiety and trouble that men of the great Canadian camps of 50,000 soldiers and more in the South of England had given the Council; how they had wrestled with the difficulty; how they had wanted to put the Defence of the Realm Act into force, but feared that action against their frailer sisters would rouse the suffragettes into militancy; how for months they had appealed to the mayor and town council of the near-by town to take action, but without success until now, when he had the glad news to impart that finally they had prevailed upon the borough magnates, and a new era was opening; the mayor and council had consented to appoint two women policemen—two women policemen to protect the morals of an army of 50,000 men and more, by influencing for good the harpies that preyed upon them! Nor shall I forget the just impatience of my chief on that occasion, and how he fluttered the serenity of that meeting, how he put it to the Council that here in the greatest of world wars, dealing with the greatest of army plagues, for the last two years they had been nibbling at the fringe of the subject, talking and talking but accomplishing nothing fundamental; how London is the great centre of prostitution, the hot-bed in venereal infections for both officers and men of other ranks on leave; but the Council proceeded as though London conditions did not exist; how at that moment, but a few yards away from the meeting, enter one of the music halls and they would find the promenade packed with prostitutes, openly soliciting. Whether his words had the effect I cannot say, but within a week the public-spirited manager of the Empire answered that his promenade henceforth would be closed to women, and the other music halls followed suit.

The American Attitude.

Now I am convinced that this policy of frank dealing and open speaking is the only one that will improve conditions. Thus, had the medical profession in the first place, the National Council, and the Government spoken out at the beginning of the war, the well-being and happiness of the country and the condition of our troops would to-day have been very different from what it is. Even at this late date I would beg the National Council to influence the Government to publish a statement regarding the venereal situation in the army in successive years of the war, in the different regions—at home, in France, Mesopotamia, and the like—so that the country knows the extent of the trouble as it affects the army, and, simultaneously, to obtain powers to make an investigation in selected areas or classes of the population into the frequency of either syphilis or venereal disease in general in those areas or classes. Let the situation be known and faced. I am convinced that the upholders of the policy of bated breath—the ostrich policy—once they begin to think over the matter, must recognize the unreasonableness of their attitude and that their opposition is not to be feared even by the politician anxious for votes. Of this I am convinced from experience. For notice: Mrs. Grundy and the

prudes are far more in evidence in the United States than in this country. We, for example, have never condescended to speak of "roosters," or thought it improper to mention the lower extremities by their Anglo-Saxon name, or draped the anterior continuations of the piano. But this notwithstanding, the surgeon-general at Washington did not hesitate in 1912—before the beginning of the war—to publish in his routine orders outspoken regulations directing all soldiers returning to camp to state whether they had exposed themselves to the possibility of venereal infection, and detailing the early preventive treatment to be given to those who had been exposed. I may say that I studied the American treatment at Washington in the spring of 1915, and reported upon it to the War Office, but the "dead hand" prevented its adoption for close upon two years. If this could be accomplished in the States in times of peace, we in this country need not have feared to adopt it in time of war.

When the States actually came into the war, the whole country took up the matter. The Secretary of the Navy, for example, did not hesitate to announce: "To-day, as never before, American manhood must be clean and fit. America stands in need of every ounce of her strength. We must cut out the cancer of disease if we would live." The Secretary of the Army was equally direct. General Pershing, as Commander-in-Chief, has made it one of his army regulations that the venereal status of a unit shall be filed with the other papers of the officer commanding each unit, and shall be taken into account in determining the promotion of the officer. To quote Major Haggard, President of the Southern Surgical Association: "The inevitable pestilence is being fought with every imaginable agency—education, recreation, diversion, protection, isolation, prophylaxis, penalties, and court-martial. Many thousands of young men will for the first time be taught the whole truth by all sorts of real men. . . . After the war the idea will permeate all strata of society and be a real understandable and liveable benefaction. It will disseminate through America the practice of personal hygiene by uncounted numbers of young men. The beneficial results to accrue to us and to posterity will almost make the war worth while." But Colonel Hugh Young of the United States army is with us, the well known head of the genito-urinary department at Johns Hopkins Hospital, America's foremost authority on venereal disease, and with him Colonel Snow, in charge of propaganda, largely responsible for the administration of antivenereal measures overseas. They will put before us what has been accomplished and how. Thanks to Colonel Waley, and with the permission of the Commander-in-Chief, they have come from France to attend this conference.

Action of Overseas Forces of Canada.

With their important communications in view, I will be brief regarding the methods in vogue in the overseas military forces of Canada. I have already indicated the difficulties in our way, due to want of active co-operation on the part of the civil authorities in Great Britain. In practice we have found that there is no one procedure which is effective in arresting venereal disease in the army; it is necessary to employ a combination; the Director-General has put into force all the methods save court-martial mentioned by Major Haggard—education, warning, recreation, diversion, protection, isolation, prophylaxis, and penalties. Let us emphasize the main points of our action. One of our leading Canadian hygienists, Colonel Amyot, professor of hygiene in the University of Toronto, has been attached by the Director-General to this office and given special charge of the venereal situation, with a keen worker under him—Captain Gibbs, C.A.M.C.—whose whole time is devoted to investigation and propaganda work.

Inspection.—Emergency inspections are held once every week. By emergency is meant unheralded.

Education.—On joining up, on arrival in England, and periodically throughout his service the soldier is instructed regarding personal hygiene, the need to the nation of personal efficiency, the value of continence, the dangers to himself, to his future family, to those around him of venereal infection; the mode of infection; the nature of gonorrhœa, syphilis and chancroid, and their results. That the instruction may be given in proper form, and nothing essential be overlooked, a syllabus of five lectures on the prevention of communicable diseases has been issued from the office of the D.G.M.S. to every medical officer of units in England, the course to be delivered to officers, N.C.O.'s and men in definite groups each week until the course is finished. The men are instructed frankly that intercourse with the other sex is not essential to health: that to expose themselves to the danger of venereal infection and become infected is knowingly to acquire a self-inflicted wound which, as much as any other self-inflicted wound, should render them liable to court-martial. If despite these warnings the temptation to intercourse is too great, then for the good of the service it is the duty of each man to protect himself. He is instructed how this may be done—nay, more, is told that, in their own interests and his, the army authorities provide him with calomel ointment for prophylactic use; and lastly, he is instructed to report for treatment as soon as possible after the act.

Early Treatment.

Every Canadian orderly medical room in England is an early treatment centre where night and day there is present a trained N.C.O. to supervise and see that the soldier carries out fully the instructions given. These instructions, in clear language and clear type, are set forth on the walls. Whenever one of the trained N.C.O.'s seeks or is given transfer to other duties his successor is appointed a week in advance so that before taking over the duties he may be thoroughly informed.

For those on leave in London there are open day and night two early treatment centres—at Southampton Street and at Victoria. For those "exposed" another treatment is demanded on their return to their units. Men are further instructed that if not in the neighbourhood of a Canadian centre they are to go to an Australian or New Zealand centre. As a matter of fact the Dominions are working together and are appointing centres in the large cities of the United Kingdom open to men from all the Dominions. In Paris there is another Canadian centre freely open to soldiers of all imperial forces on leave in that city.

Here it deserves note that, contrary to the optimistic statement contained in a recent leading article in the *Times*, the Canadian authorities in their talks to the men on parade make a point of emphasizing that neither prophylactic nor early treatment assures absolute immunity to venereal infection. The men are warned that this is not the case. Our experience has shown that even under expert supervision neither the one nor the other procedure is free from occasional failure. In this connexion the Canadian authorities are at one with Mr. E. B. Turner in his letter to the British Medical Journal of January 4th. They firmly believe that if the army and the populace in general be advised that absolute deterrents exist when this is not the case there is a possible danger of their employment leading not to diminution but positive increase in the spread of the venereal diseases. This, I understand, has actually happened in Germany. We had, it is true, no official statistics to bring forward in this matter, because for the good of the service and to encourage the men to apply for treatment at the orderly room, no names are taken.

Penalties.

By an Order in Council issued in 1916 the Governor-General directed that half the pay of soldiers found suffering from acute venereal disease should be docked so long as they remained on the sick list, and this is strictly observed, while during convalescence the men are given fatigue duties. Add to this the venereal record is inserted on the medical history sheet and accompanies the man throughout his army career.

Treatment.

This is not a medical lecture, so I shall not enter into the details of the treatment given at our two Canadian special venereal hospitals, full of interest as they are for the expert. I would only point out that at both of these hospitals from the first possible moment the men, instead of being treated as being in Coventry and as depraved characters, are treated as human beings. I have it from one of our chaplains that as a body he found them the best, brightest, and most attractive lot of fellows he had come across in the army and that he treated them as such. As part of their treatment they are kept diverted; football

baseball, and other teams are a feature of the camps, and there is keen rivalry between the teams from the different wards. Contrary to the generally accepted view that acute gonorrhoea is best treated by avoidance of exercise, the experience of the special hospital in Witley camp has shown that physical training, by keeping the men busy and diverted, very materially shortens the period of hospitalization. The effects obtained were so good that in the report of his inspection Major-General F. Howard, Inspector of Infantry, recommended that the Witley methods be employed at all military venereal hospitals, as so materially shortening the period of disablement and so effectively training the men.

Results.

Lastly, as to the results. I will only trouble you with one set of statistics, but that, I think, shows eloquently the effect of the campaign undertaken by the Director-General through Lieut.-Colonel Amyot and his staff.

During the month of September, 1916, from among 42,000 Canadian troops in Great Britain there were admitted to hospital suffering from venereal diseases 960 cases; during the month of September, 1918, from among 110,000 Canadians in Great Britain there were 750 similar admissions. In two years the venereal incidence has been reduced more than 66 per cent.; it stands now at less than one-third of what it did two years ago. Had they continued at the same rate, the admissions during the month in September, 1918, would have been, not 750, but over 2,500—not seven and a half companies, but two battalions and a half, out of action.

THE DANGER DURING DEMOBILIZATION.

Inevitably during this period of armistice, with beginning demobilization, we are dreading a most serious and sinister increase in venereal disease throughout the country as the result of the return of the soldier; dreading its effect upon the family. I know that the agitation has already begun in Canada; that there it has been urged that no soldier suffering from gonorrhoea or from syphilis shall be permitted to return to the Dominion, but that such shall be kept here in England in hospital until wholly cured—an impossible recommendation, seeing that cases of chronic gleet and some cases of tertiary syphilis so far fail to react to any known form of treatment. What is suggested, therefore, is that a certain percentage of Canadian soldiers be kept in hospital in England for the term of their natural life.

It is not the civil population that has to fear the soldier, but the soldier the civil population. Throughout this war the soldier has been well cared for. All means have been employed to diagnose venereal disease at its very onset, and to give hospital treatment immediately. It is then that disease is most easily controlled. Every soldier has been warned time and again of the dangers he runs, has been instructed as to personal hygiene, and has been afforded early treatment under supervision. As a result there is no section of the community which at the present time is in a cleaner and healthier state; no section of the community which has less venereal disease. I speak here for the whole body of the imperial forces. As for our Canadian experience, I may say that last autumn the instruction was given that all soldiers returning to Canada whose medical history sheets bore the record of venereal disease should be given the Wassermann test. I have the August figures, showing that 2 per cent. of the total number returning reacted, and all these were tertiary non-infective cases, for no active primary or secondary cases are permitted to return. The average number of reactions in the civil population is estimated at from 8 to 12 per cent. There is thus four to six times as much syphilis in the civil population as in the army. But in the meantime nothing of any moment has been accomplished for the civil population. Lord Sydenham, in his letter to the *Times* of yesterday morning, speaks of the provision of early treatment centres. "We are endeavouring," he says, "to secure the organization of clinics continuously available where early treatment by competent persons can be obtained." But they are not available to-day; they will not at the present rate be available until demobilization has become a matter of history. To meet the situation they should be scattered thickly all over the country. No man will take a two hours' journey after the act in order to obtain treatment. The dearth of expert syphilologists and of bacteriologists qualified to carry out the Wassermann and other complement fixation tests demands that the centres for ordinary venereal diagnosis and treatment under the Act be few and far between, situated in the great centres of population. It is thus the civil population that to-day constitutes the grave danger. And as all these four years nothing has been done to meet the emergency, when our soldiers return, and are feasted and made drunk, and are solicited and fall, there will be no medical orderly room to proceed to, no provision of early treatment, no N.C.O. to see that the elaborate toilet is duly performed. Provision for early treatment will be non-existent.

Let me repeat: The soldier will receive and not give; and speaking as a soldier and for the soldier, with full recognition of the strength and the seriousness of the argument put forward by Mr. Turner and Lord Sydenham, and admitting that the provision of prophylactic treatment to an uninstructed public may well result in the spread rather than the reduction of venereal disease, I am strongly of opinion that the soldier before demobilization should be provided with the means of prophylactic treatment, should be advised how to obtain the same without difficulty, and moreover, be given precise instructions as to the method of employment. For the good of the country I see no other possible course.

I have spoken frankly. I have here taken a position that upon first consideration may not receive the unqualified support of those others who, like myself, realize the vast harm done to the manhood and womanhood of our people, the hideous heritage of disease to this and coming generations, where, indeed, there does not result sterility or the dead or diseased untimely fruit of the womb—the appalling loss of man power that results. But to those who in the supposed interest of morality would still maintain the policy of silence and accuse me of propounding an unmoral if not immoral policy, I would only repeat what I said at Westminster in July to the National Conference upon Maternal and Infant Welfare: "Which is the more immoral act—to advise a man how to prevent infection if he has transgressed the moral code, or calmly and coldly to look on without moving a finger, while, through ignorance on his part, the innocent wife and children are made diseased, and they and the community suffer through generations?"

And as to this vital problem of the provision of prophylactic or early treatment respectively, which to-day is so stirring us, I cannot recognize any logical intermediary position between regarding as a leper outside the pale of society the man or the woman who has become infected, and approving of treatment before the act. We cannot take the first position, and decide that as the man makes his bed so he must lie upon it, and that because his wife also occupies the bed, and she must be protected. But if we therefore are compelled to treat the disease, the earlier we treat it the surer we are of controlling it; infection begins from the moment the infecting agents begin their action upon the tissues; it is ridiculous to wait until they have set up lesions recognizable to the naked eye. If it is justifiable to treat the developed disease, it is yet more justifiable to afford early treatment; and if that, then for security to make it the rule that after every illicit intercourse the man seeks protection. To direct, as did certain memorable instructions, that treatment must be given in the presence of a bacteriologist after the gonococcus or the spirochaetes have been obtained from the organs of generation and recognized under the microscope, is what across the Atlantic is termed "eye wash." And if, as the writer to the *Times* on New Year's Day put it, the critical hour is 11 p.m., and treatment may justifiably be given at 11.15, what objection can be raised to giving it at 10.45? The doctrine that "the sinner must not prepare for immorality, but he may use the best means known to science to escape the consequences"—such a doctrine surely, if not hypercritical, is hypocritical.

But we are not a logical people, and the probabilities are that we will end in some illogical compromise. Yet unless something be done, and that immediately, the next few months will see such a spread of venereal disease in the country that for generations the empire will suffer. Now, if ever, it is well to repeat His Majesty's famous exhortation, "Wake up, England!"

RECENT EXPERIMENTS ON THE LIFE-HISTORY OF ASCARIS LUMBRICOIDES.

BY

F. H. STEWART, MAJOR I.M.S.

RANSOM and FOSTER have published a preliminary account of experiments on this subject, in the *Journal of Agricultural Research* of November 19th, 1917. They found that a repetition of my experiments on the feeding of rats and mice with ripe ascaris eggs gave results agreeing very closely with those recorded by me in the BRITISH MEDICAL JOURNAL of July 1st, October 7th, and December 2nd, 1916, and in *Parasitology* of February, 1917. In addition to these experiments they made further attempts to infect pigs with *Ascaris suilla*, but with negative results. Their experiments were conducted on pigs several months old, and they suggest that the failure of these and of other experiments may have been due to the animals employed being past the age of greatest susceptibility to infection. It may be well to explain that in this experimental work the pig may be substituted for man, and that any facts proved regarding the development of *Ascaris suilla* in the pig may be assumed to hold true for the development of *Ascaris lumbricoides* in man.

In an experiment conducted in September, 1917, ripe eggs were administered to a pig two weeks old. This animal died seven days thereafter, and ascaris larvae measuring from 0.7 to 1.2 mm. were found in the lungs, trachea and pharynx. This experiment agrees with those published by me in the *Indian Medical Gazette* of August, 1917, and in *Parasitology* of January, 1918.[1]

Ransom and Foster also found an ascaris larva in a fragment of the lung of a pig aged six weeks that had died from unknown causes, and in the intestine of which they also found numerous immature ascarids, the largest about 50 mm. in length. They state that guinea-pigs are susceptible to pulmonary infection with ascaris larvae.

Summing up our present knowledge of the larval development of this worm, it has now been established that the ripe eggs of ascaris will hatch in the intestine of man, the pig, rat, mouse, and guinea-pig, that the larvae enter the blood stream of the host, pass through the liver and heart to the lungs, there migrate from the capillaries into the alveoli, and thence through the bronchi and trachea to the pharynx. They reach the lungs and trachea between the sixth and eighth days after infection. Further, in the mouse the larvae then migrate down the alimentary canal and are passed alive but not active in the faeces from the tenth to the sixteenth day.

I have recently been able to perform three additional experiments on young pigs. Two of these, A and B, were four days old at the commencement of the experiment, the third, C, was aged two months and ten days. To both A and B a dose of about 22,000 ripe eggs of *Ascaris suilla* was administered, to C about 50,000. The embryos in these eggs were moving actively, and the cultures were tested on rats and proved infective, larvae being subsequently found in the lungs. A and B suffered from ascaris pneumonia on the eighth day after infection; C showed no sign of pulmonary trouble.

Pig A was killed on the fourteenth day, and young forms of ascaris, measuring between 2.5 and 3.8 mm., were found in great number in the small intestine and caecum. Their heads had lost the appearance of the larval head and had taken on the adult head character. Pig B was killed on the nineteenth day, and although there can be no doubt that on the eighth day the lungs contained thousands of active larvae, not a single worm was found in the stomach, small intestine, caecum, or colon. The nature of the faeces found in the colon proved that the pig was not suffering from diarrhoea due to excessive infection, which might have accounted for the disappearance of the worms. Pig C was killed thirty-one days after infection, and again no worms were found in the intestine.

These experiments are puzzling. In the case of A the increase in size of the worms to 3.8 mm., when the largest larva found in the intestine of mice measures 2.37 mm. and in the lung of the pig 1.5 mm., and the assumption of the adult head character amount almost to proof of the theory of direct development without an intermediate host. The disappearance of the worms in B five days later may or may not have been accidental. Further experiments are required on direct infection and on the possibility of the infection of the definitive host by the larvae passed in the faeces of mice.

Pulmonary Ascariasis in Man.

Lutz,[2] in recording the experiment performed in Brazil in 1887, in which he administered ascaris eggs to a woman aged 32, states that the woman suffered during the first few days from acid dyspepsia, followed by unusually severe bronchitis, with slight remittent fever. This confirms the observation of Mosler,[3] and proves that the passage of the larvae through the lungs, even of adult man, may give rise to pulmonary symptoms. Thirty-five worms were passed by this woman under anthelmintic treatment, and about ninety-six eggs had been administered to her in doses of about twelve at a time throughout the course of a month.

My thanks are due to Dr. Keatinge, Director of the School of Medicine, Cairo; to Mr. Branch, Chief Veterinary Inspector to the Egyptian Ministry of the Interior; and to Mr. Casdagli, for the means of carrying out the above experiments.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, 1918, i, p. 266 [2] *Centralbl. f. Bakt. und Parasitol.*, 1888, p. 425. [3] Leuckart, *Menschliche Parasiten*, II, pt. 1, p. 222.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LUMBAR PUNCTURE IN ECLAMPSIA.

I DO not know to what extent lumbar puncture has been tried in cases of eclampsia, but a note on a case in which I used it with apparently satisfactory results in Belfast Union Maternity Hospital may be of interest.

The patient, a primipara, had had fourteen fits, which were increasing in severity, the first being six hours before puncture. She was comatose between the fits. Eighty cubic centimetres of cerebro-spinal fluid were withdrawn, the puncture being made above the last lumbar vertebra. Subsequently she had five fits, decreasing in severity. The puncture was performed at 1.30 p.m., and she spoke a few words in reply to a question about 6 p.m., and drank a little during the evening. The last fit was about 7 p.m. Natural dilatation was waited for, a little chloroform was given, and forceps were used for final delivery, which took place eighteen hours after the puncture. The fetus was stillborn; it had evidently been dead for some time, the cord being green. The albumin disappeared from the urine in a few days, but headache persisted for about the same time. She was discharged from hospital quite well a fortnight later. The fluid came with a little rush at first, and afterwards about one drop per second. It was clear and limpid, specific gravity 1008, very slightly alkaline; albumin was present, but no globulin. Fehling's solution was slightly reduced, giving a reddish-yellow deposit.

The usual routine treatment was carried out from the start—namely, washing out the stomach and bowel, mist. alba being left in stomach. The contents of stomach were a dirty green. Morphine gr. ½ and atropine gr. $\frac{1}{150}$ were injected. Normal saline was injected into the rectum, and, as she was full-blooded and cyanosed, 15 oz. of blood were withdrawn from the arm. Linseed poultices were applied over the renal area.

It cannot, of course, be said how far the other treatment was responsible for the improvement in this case, but the fits were becoming more severe and the coma was deepening before the puncture, and afterwards the fits were less severe and the general condition of the patient seemed distinctly improved. Her condition looked very grave, and I decided to try the withdrawal of some spinal fluid experimentally as an alternative to Caesarean section or leaving her to the sedative treatment alone.

JOHN MCLIESH, M.B., D.P.H.,
Visiting Medical Officer, Infirmary, Belfast, and Assistant to Professor of Midwifery, Queen's University, Belfast.

IT is reported that a deposit of pitchblende showing a high percentage of radio-active substance has been discovered on the Kingswood Estate, Buckfastleigh, Devon.

J. C. CASTRO (*Siglo Medico*, 1918, p. 690) states that beriberi occurs much more frequently in Spain than is generally believed. It is particularly prevalent in Avila, Estremadura, and Hurdes. He records a case seen by him at Barquillo (Avila) in a man whose diet consisted almost entirely of potatoes. Rapid cure followed a change of residence and the use of a diet more varied and richer in vitamines.

Reports of Societies.

PREVENTION AND ARREST OF VENEREAL DISEASES.

LORD SYDENHAM presided, on January 8th, at a conference at the Royal Institute of Public Health, when Colonel J. G. ADAMI, F.R.S., C.A.M.C., read a paper, the full text of which is published under the title of "The Policy of the Ostrich" at p. 98. Lord Sydenham said that much light had been thrown during the war on the subject of venereal disease in the army, and if the statistical information available were collected and analysed it would form an important addition to knowledge. It was hoped that the centres for the early treatment of venereal disease, which had been doing very good work, would be multiplied and the hours of opening prolonged. There had been a considerable increase of infection among the civilian population during the war, and this must create a serious risk for demobilized men.

Colonel HUGH YOUNG, M.C., U.S.A. (Professor of Genito-urinary Surgery, Johns Hopkins University), in discussing Colonel Adami's paper, emphasized the good effects which had resulted in the army of the United States since, in 1912, the method of prophylactic treatment had been put into force. The incidence of venereal disease had been reduced some 50 per cent., and this notwithstanding the fact that the coincident employment of the Wassermann test had brought to light a large number of syphilitic infections which previously had been overlooked. The want of police control of prostitutes in Great Britain had gravely affected the movement of American troops; with their old-time family associations, their men longed to visit England. A very short experience of the state of affairs in Liverpool made it necessary to send as many of the troops as possible direct to France, and to rush the others through England without a stop. They could not help feeling that the condition of affairs was rather disgraceful. In France, in the seaports and towns they were assured that the prostitutes were medically inspected and free from disease, but, as a matter of fact, troops billeted in these towns showed a rapid and alarming increase in venereal disease. When from 800 to 1,000 men might visit a single brothel in the course of one day, it was obvious anything of the nature of adequate antiseptic toilet on the part of the prostitutes was impossible. The women might themselves be free from active venereal disease, but clearly they acted as carriers. This, he pointed out, was a new point of view, showing clearly that the woman who passed even the most thorough medical examination might indirectly convey disease. He wholly agreed with the previous speaker that the main danger to-day was not the soldier but the civil population. As to the policy of permitting the harlot to ply her trade freely, it must be recognized that women who conveyed venereal disease were greater criminals than were thieves. What was money compared with the health of the nation's man power?

Colonel SNOW, of the Venereal Diseases Department of the Surgeon-General's Office, Washington, stated that with the onset of the war the public were frankly informed regarding the danger of venereal disease, and the civil authorities were asked to aid the military in protecting the soldier. There was an immediate and willing response, nor had there been any opposition to the army's proposals. A ten-mile zone was established around every camp, in which liquor was not permitted to be sold, houses of ill fame were closed, and prostitutes liable to arrest. What was of first importance was the provision of recreation and entertainments of all kinds under cheerful conditions; the men were kept occupied, were educated regarding their duties to the nation, and the dangers of venereal infection. Prophylactic or early treatment was by them regarded as but one of the means, but a necessary means, of arresting venereal disease.

The Rev. J. O. H. CARTER complained that the moral side of the problem was being neglected, but Lieut.-General Sir FRANCIS LLOYD, who until recently was in command of the London district, denied this. He realized, he said, the great difficulties existing in London, for it would be impossible to put women under arrest; a great deal might be done if the police would keep them moving, and not allow them to hang about talking to the men.

THE FUTURE OF GENERAL PRACTICE.

AT a meeting of the London Association of Medical Women on January 14th, at 11, Chandos Street, with the President, Lady BARRETT, in the chair, a discussion on the future of the medical profession was opened by Dr. JANE WALKER, who dealt in particular with the question of a State Medical Service. She advocated a Ministry of Health, with the medical profession organized into a whole-time salaried service on the lines of the higher branches of the civil service, but said that there would probably be a transition stage with some part-time and some whole-time workers. Dr. Walker then dwelt on some of the disadvantages of private practice—the uncertain hours, the uncertain return for work done, the difficulty of making a sufficient number of visits in many cases of illness, and the powerlessness of the profession in dealing with evils such as bad housing. She referred to the inroads made lately upon general practice, as in the treatment of tuberculosis and venereal diseases, and in maternity and child welfare, and pointed out that specialist "team work" was too expensive for any one except the very rich, or the poor who received it free. In a State Medical Service provision should be made for full "hospital opportunity" for all patients, for study leave every five to seven years, and for each medical officer to rise according to his merits and in the direction in which his special talents lay.

Dr. CHRISTINE MURRELL, in discussing the advantages of the general practitioner for domiciliary treatment, referred to the need for the general practitioner as a link between various consultants, and to the advantage which he sometimes had over the medical officer of health in dealing with such evils as slum property. She then gave an account of some American clinics managed on a collective system, in which treatment was open to all, with payments assessed on the almoner system according to means.

Dr. JESSIE CAMPBELL, in dealing with the methods by which the standard of work in general practice might be raised, advocated part-time appointments for such work as infant welfare, school treatment centres, and the treatment of tuberculosis and venereal disease. In this way the general practitioner would be kept more up to date than by attendance at post-graduate courses.

Dr. DOROTHY HARE believed that the standard of work in general practice dropped because doctors worked alone, and so lost mental stimulus; it was difficult to try new treatment owing to want of moral support such as they would have in a hospital. Dr. BENSUSAN BUTT, Dr. DICKINSON BERRY, Dr. COCKERELL, Dr. LEWIN, Dr. HARFORD, Dr. FAIRFIELD, and Lady BARRETT also took part in the discussion.

Rebiews.

THE SOLDIER'S HEART AND THE EFFORT SYNDROME.

THE war has taught many lessons. In the domain of medicine and surgery it has served to demonstrate the untrustworthiness of many old established notions and has opened up new methods of diagnosis and treatment.

In the early days of recruiting a vast number of men were rejected on account of so-called heart disease. In many cases these rejections were founded purely and simply upon abnormal heart sounds. To Dr. THOMAS LEWIS belongs the credit of having recognized and demonstrated the need for a more intelligent and trustworthy test of the heart's fitness to bear any unusual strain. By carefully gauging the symptoms produced by a definite amount of exertion in health he was able to show that such symptoms differed greatly in degree in cases of cardiac insufficiency from any cause.

To this group of symptoms he has given the name of "effort syndrome," and they are to be used as the first indication of heart weakness, the exact physical conditions with which they may be associated being investigated later. In some instances gross lesions may be found, but these are not common in young adults, and it is only the degree of effort syndrome produced by a fixed amount of exertion that can serve to indicate that some defect is present.

Dr. Lewis in his new book, *The Soldier's Heart and the*

Effort Syndrome,[1] has brought together the main points of his teaching, arranged for convenient reference and study by Discharging and Pensioning Boards, and for the guidance of those in charge of military patients suffering from cardiac insufficiency.

Much of it has already been published, and the report contained in an appendix appeared in our columns in December last (p. 647). Although fully recognized by experts, the importance of a more careful and rational nomenclature of heart affections has not been by any means widely accepted. The rough and ready classification of heart cases into valvular disease (V.D.H.) and disordered action (D.A.H.) has been, and still is, responsible for a great deal of unnecessary apprehension and invalidism. Dr. Lewis raises a strong protest against such loose and misleading terminology. He points out with equal force the many errors that have been committed in the course of the indiscriminate training to which recruits have been subjected, and incidentally exposes many defects of system that call for reform.

The book as a whole presents a clinical guide of real value to the study of all morbid conditions of the heart as exemplified in the case of the invalided soldier.

"WORD ASSOCIATION."

WORD association was first used as a psychological experiment in reaction time, the subject being given a succession of stimulus words to each of which he was required to answer the first word that occurred to him. The psycho-analysts have now appropriated the method. In the volume entitled *Studies in Word-Association*[2] we are given, as the subtitle indicates, an account of experiments in the diagnosis of psycho-pathological conditions carried out at the Psychiatric Clinic of the University of Zurich under the direction of Dr. C. J. JUNG. The appearance of the book is opportune, for word association is being used in the treatment of war psychoneuroses to revive buried memories, though at first sight the subject has little bearing upon so-called shell shock.

The chapters are by different workers at the Zurich clinic, and a systematic and detailed account of the associations of normal subjects and the methods of classifying and analysing the responses occupies nearly one-third of the book; the way in which various types of people react is stated, and an interesting paradox appears when we learn that the reactions show a distinctly shallower type with educated people than with the uneducated. The associations of imbeciles, idiots, and epileptics are reported and analysed, some general deductions being made. We look to the chapters on hysteria for a practical application of the method; nine cases are described, and the reader may or may not regard as a testimonial to the writers the fact that the only result recorded was clinically a failure. The investigation of the physical accompaniment of psychical processes by means of the "psycho-galvanometer" is receiving attention in this country, and in Chapter XII Dr. L. Binswanger claims that this instrument is a valuable "complex indicator" in word association tests. This book, which contains a good bibliography, will be of value to anyone engaged in psycho-analysis and also to the pure psychologist. The translator has produced a version which, in its wording and style, bears little evidence of being a translation.

TREATMENT OF HYSTERIA.

THE second number of the *Seale-Hayne Neurological Studies*[3] fully justifies the remarks made concerning its predecessor in the BRITISH MEDICAL JOURNAL for November 9th, 1918, to the effect that the publication has "only to be known to be assured of a wide circulation." Among about a dozen short papers by Colonel HURST and his staff on neurological problems of everyday occurrence are interesting and practical accounts of such conditions as bent back (published in our columns on December 7th, 1918), hysterical hiccough, hysterical sequelae of gassing, and the responsibility of medical men to patients with hysterical symptoms. Colonel Hurst describes the case of a patient who showed overaction of the frontalis in association with ptosis which was hysterical. This is a new observation and is one of several by this author which prove the necessity of a revision of certain statements of fact which have come to be accepted without comment.

These *Neurological Studies* make excellent reading and are a valuable addition to medical literature. They will soon be found in the permanent library of every progressive medical man in the country.

VACCINES AND SERUMS.

To those in search of a cheerful and up-to-date summary of the practical applications of vaccines and serums we cordially recommend Captain A. G. SHERA's primer on the subject.[4]

The little book opens with a wise preface by Sir Clifford Allbutt encouraging the reader to lean ever to the sunnier side of doubt—for doubts will arise from time to time in the employment of both vaccines and serums. The first half of the volume deals with the preparation and employment of vaccines, the second half similarly with serums. Captain Shera has had no little experience in the methods of treatment he recommends, and has come through it all with a happy optimism that tends to inspire his readers with confidence. The principles underlying the treatment recommended are fully explained, however complex they may be, in the most painstaking manner. Details of the practical applications of the serums and vaccines recommended are given in full—a great help to the practising medical man. Captain Shera writes with the courage of conviction, and makes out an undoubtedly strong case for the scientific application of therapy by inoculation. He is fully aware of its weaknesses, but holds (and who shall say that he is wrong?) that these arise from a lack of scientific procedure in the preparation or exhibition of these specific remedies.

ELECTRO-THERAPY IN GYNAECOLOGY.

IN the introduction to his little volume on *Electro-therapy in Gynaecology*,[5] Dr. SAMUEL SLOAN states that he has tried to avoid being over-enthusiastic, but one of the most refreshing features of the book is the obvious difficulty he has experienced in achieving this. Frankly, Dr. Sloan is an enthusiast, and we would not have it otherwise; but, at the same time, he is as just and candid a critic of his own work and methods as any man can be expected to be. Another refreshing feature of the book is that Dr. Sloan confines himself to what is within his own knowledge and experience, and makes no attempt to write a treatise.

In the first part of the volume he gives a lucid and simple explanation of electro-physics, and describes the meaning of ionization, and of alternating and oscillating currents. Wisely he takes for granted what is probably true of most gynaecologists—that his reader has forgotten all he had ever learned about these matters. This section is followed by short chapters descriptive of electro-medical appliances—the static, galvanic, faradic, and high-frequency apparatus and their accessories.

The third part of the book is devoted to the principles of electro-therapeutics, and to an endeavour to explain on a scientific basis the benefits obtained. The two following sections are taken up with the application of these principles—first, to constitutional and functional diseases in women, and secondly, to pelvic diseases. Lastly come appendices, occupying nearly half the volume, and containing short notes of cases treated, the results of treatment, and the conclusions based upon them. To many readers this will be the most interesting part of the book.

[1] *The Soldier's Heart and the Effort Syndrome.* By Thomas Lewis, M.D., F.R.C.P., F.R.S., D.Sc. London: Shaw and Sons. New York: Paul B. Hoeber. 1918. (Demy 8vo, pp. 144. 7s. 6d. net.)

[2] *Studies in Word-Association.* By C. J. Jung, M.D., LL.D.; translated by Dr M. D. Eder. London: Wm. Heinemann. 1918. (Roy. 8vo, pp. ix+575; 4 full-page figures. 25s. net.)

[3] *Seale-Hayne Neurological Studies.* Edited by Lieut.-Colonel A. F. Hurst, R.A.M.C., and assisted by the staff of the Seale-Hayne Military Hospital. Vol. I, No. 2. Published every two months by the Oxford University Press. (Pp. 59. Price 3s. 6d. net; annual subscription 1 guinea.)

[4] *Vaccines and Sera: Their Clinical Value in Military and Civilian Practice.* By Geoffrey A. Shera, B.A., M.D., B.C.Cantab. London: Henry Frowde, and Hodder and Stoughton. 1918. (Fcap. 8vo, pp. xxi, + 226. 7s. 6d. net.)

[5] *Electro-therapy in Gynaecology.* By Samuel Sloan, M.D., F.R.F.P.S.G. London: Wm. Heinemann. 1917. (Demy 8vo, pp. xxii + 208; 39 figures. 12s. 6d. net.)

In regard to pelvic disease, the author's experience includes pruritus, dysmenorrhœa, relaxation of the pelvic tissues, subinvolution, menorrhagia and metrorrhagia, infection of the generative tract from vulva to peritoneum, myomata, sterility, and affections of the bladder, rectum, and anus. After the recital of such a catalogue it is only just to state that Dr. Sloan has excluded cases which, in his opinion, required surgical interference, and makes no claim for electricity as a panacea. It is indeed on the very points where the operative enthusiasm of the modern gynaecologist might be expected to clash with the electro-therapeutic enthusiasm of Dr. Sloan that the book is of most interest and value.

Dr. Sloan is a pioneer, and this volume is, as it were, his cluster of grapes from the brook Eshcol. His report of what he believes to be a Promised Land deserves consideration by every one interested in the future of gynaecology, whether he ultimately becomes a convert or not.

NOTES ON BOOKS.

A FIFTH edition of the large book on *Applied Anatomy*,[6] by Dr. GWILYM G. DAVIS, professor of orthopaedic surgery in the University of Pennsylvania, has been issued. The book is very copiously illustrated with drawings, most of them coloured. The text and drawings have been revised for the new edition, and the book forms a most useful work of reference for surgeons.

Professor CHAUDHURI's little book on *Modern Chemistry and Chemical Industry of Starch and Cellulose*,[7] written with special reference to India, is a book for the public. It begins with a section on the broad chemistry of the subject, and goes on with an account of the industrial problem in India with its applications to such industries as those concerned with alcohol, textiles, paper making, artificial silk, and so forth. Professor Chaudhuri has the industrial advancement of his country at heart, and should advantage be taken of the manufacturing possibilities he points out in his pages he will have achieved no little success by its publication.

The second edition of Professor LEWIS'S *System of Physical Chemistry*,[8] an abstruse and very thorough piece of work, presents the same characters as the first, which was reviewed in this JOURNAL two years ago (p. 484). The book remains one for the advanced student or teacher of chemistry or physics. The new edition has undergone considerable enlargement, with the addition of pages leading up to such subjects as Boltzmann's probability-entropy relation in statistical mechanics and its bearing on the second law of thermodynamics, osmotic pressure (that hardy perennial), adsorption and membrane equilibria, and the like. It has also expanded from two volumes into three, the first dealing with kinetic theory, the second with thermodynamics, and the third with the physico-chemical aspect of the quantum theory which has proved so useful in solving problems insoluble by kinetics or thermodynamics. Professor Lewis's treatment of physical chemistry is highly mathematical throughout, and his pages are replete with quotations and references to the original literature. We wish these volumes the success they deserve.

Titanium, an element discovered by Gregor in a Cornish mineral in 1791, and commonly but erroneously regarded as a "rare" metal, is actually thought to compose one three-hundredth part of the earth's crust. One of its chlorides, of the formula $TiCl_3$, was introduced as a reducing agent into volumetric chemistry by Professor KNECHT[9] of Manchester some fifteen years ago, and he has now reissued a short monograph giving details of the many ways in which titanous chloride can be used for quantitative volumetric analysis in the domains of organic and inorganic chemistry. The book is clearly written, and gives an adequate account of the subject.

Dr. LUFF's well-known *Manual of Chemistry*,[10] theoretical and practical, inorganic and organic, adapted to the requirements of students of medicine, has now reached its sixth edition. It contains many alterations and additions, and is indeed nearly seventy pages longer than its predecessor, a reflex of the fact that some medical curriculums now comprise much more organic chemistry for the second year of study than they did in easier days gone by. It is well arranged and clearly written, appearing to contain all the facts likely to be required by the medical student. We cordially recommend this highly successful volume to the attention of those for whom it has been composed.

[6] Philadelphia and London: J. B. Lippincott Company. (Medium 8vo, pp. x + 630. 30s. net.)

[7] *Modern Chemistry and Chemical Industry of Starch and Cellulose.* (With Reference to India.) By Tarini Charan Chaudhuri, M.A., Professor of Chemistry, Krisnath College, Berhampore (Bengal), etc. Calcutta: Butterworth and Co. (India) Limited. 1918. (Cr. 8vo, pp. viii + 156. Rs.3.12.)

[8] *A System of Physical Chemistry.* In three volumes. Second edition. By William C. McC. Lewis, M.A.(R.U.I.), D.Sc.(L'pool). London: Longmans, Green, and Co. 1919. (Demy 8vo. 15s. net each volume.)

[9] *New Reduction Methods in Volumetric Analysis.* By Edmund Knecht, Ph.D., M.Sc.Tech., F.I.C., and Eva Hibbert, M.Sc.Tech. London: Longmans, Green, and Co. 1918. (Cr. 8vo, pp. x + 135. 5s. net.)

[10] *A Manual of Chemistry: Theoretical and Practical, Inorganic and Organic.* Adapted to the requirements of Students of Medicine. By A. P. Luff, M.D., B.Sc.Lond., F.R.C.P., F.I.C., and Hugh C. H. Candy, B.A., B.Sc.Lond., F.I.C. Sixth edition, enlarged. London: Cassell and Co., Ltd. 1918. (Fcap. 8vo, pp. xix + 745. 12s. net.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee, held on January 14th, 1919, seventeen cases were considered, and £175 voted to fourteen of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 50, of M.B.Lond. who died in 1885. Loss of income through bad investments. Bad health will not allow applicant to work. Only income 10s. a week from a nephew, and help from the Guild. Relieved four times, £40. Voted £12 in twelve instalments.

L.R.C.P. and S.Edin., widower, aged 61, suffering from spastic paralysis. Has one son, who allows £50 a year; other income £20 from another charity. Rent £26 10s. Relieved fourteen times, £168. Voted £12 in twelve instalments.

Daughter, aged 66, of M.D.Edin. who died in 1873. Applicant, along with two sisters, endeavours to make a living by taking in paying guests, but finds it difficult to meet expenses. Other income, dividends £46; from relatives £30. Rent £40. Wants help to provide coal. Relieved three times, £35. Voted £10.

Widow, aged 50, of L.S.A.Lond. who died in 1911. Was left with two young boys, now aged 14 and 16 years. Precarious health prevents applicant from doing any permanent work. Sister-in-law allows 30s. a week. Rent £18 a year, and £18 paid for insurances for children. High cost of living makes it impossible for applicant to manage. Relieved three times, £25. Voted £10.

Widow, aged 53, of M.R.C.S.Eng. who died in 1912. Has two children, the eldest 24, who is a clerk, not living at home, and the youngest daughter, aged 14 years, at St. Anne's School, and has to be kept during the holidays, and provided with clothes. Applicant has post as companion, at £20 a year. Relieved four times, £40. Voted £10 in two instalments.

Widow, aged 38, of M.R.C.S.Eng. who died in 1914. Applicant lives with her mother, who is unable to keep her. Only child, aged 10, at St. Anne's School, but has to be kept during the holidays, and clothed. Applicant's health is bad, and she is unable to work. Helped by the Guild. Relieved four times, £48. Voted £12 in twelve instalments.

Daughter, aged 66, of M.R.C.S.Eng. who died in 1879. Owing to ill health, unable to work. Income from property, £26; Royal United Kingdom Benevolent Association, £26; and occasional help from friends. Rent 3s. per week. Relieved twelve times, £135. Elected to an annuity of £10.

Daughter, aged 68, of L.R.C.S.Edin. who died in 1893. Applicant endeavours to earn a living by letting rooms, but owing to the high cost of living finds it impossible to meet expenses. Health has been bad recently. Rent £25 per annum. Has received about 16s. per week by letting rooms. Relieved twice, £77. Voted £12 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

A MEETING was held recently at Milan under the presidency of Professor Camillo Golgi. A committee was formed to promote an institute for invalid soldiers suffering from nervous affections requiring special and prolonged care. Professor Eugenio Medea, the initiator of the scheme, stated that subscriptions to the amount of £12,000 had been received. Commendatore Bertetti had given a fine villa at Arosio with a large garden. Professor Golgi was elected president, and Professor Medea director.

British Medical Journal.

SATURDAY, JANUARY 25TH, 1919.

THE ORGANIZATION OF RESEARCH.

ALL are agreed that Parliament must now assume those responsibilities with respect to the promotion of scientific research which it has too long ignored; but, to judge from ministerial utterances, reports of committees, and newspaper comment, widely divergent opinions are held upon questions of procedure. The subject is of such importance, the consequences of a mistaken policy now would be so disastrous in the future, that we desire to submit certain considerations which should be had in mind by those charged with the formulation of a national policy.

A good deal of misunderstanding has been created already by a tendency to use the word "research" in different senses. To some writers it is a universal elixir; others would make it synonymous with the systematic application of thought, the organized acquisition of facts and information; while many think that research is something done in laboratories and indissolubly connected with test tubes or smoked drums. Unless this misunderstanding is cleared up no progress can be made. The real implications of the term "research" are most easily understood if we seek the unifying characteristic of men whom all educated people would agree to call great researchers; let us take, for examples, Thomas Sydenham, Stephen Hales, and Blaise Pascal, each a scientific giant. The extrinsic differences are wide: Sydenham was a busy medical practitioner, Hales a country parson who experimented on animals, Pascal an ascetic; yet not only were they prolific research workers, but any one now investigating disease is, consciously or unconsciously, the debtor of all three with respect to epidemiological, physiological, or statistical method. What, then, is the characteristic common to the three? It is a spirit of disinterested curiosity. Pascal, when pondering over a problem in the equitable division of gamblers' stakes did not think it was of any practical use, did not dream that he was laying one of the foundation stones of the business of life assurance; he was anxious to solve the problem because it *was* a problem—because the solution would satisfy his curiosity. Hales could have given no better reason for inserting tubes into the arteries of cart-horses; while Sydenham, who did set up to be practical, owes much of his worth to the fact that he could not resist the temptation to recur over and over again to problems which he himself declared to be beyond the scope of mortal man. Research is the satisfaction of intellectual curiosity, of the desire to know how something works, why it is, or what it is. Whether the genuine research worker is inquisitive about great matters or about small matters depends upon whether he is a big man or a small man, but unless he is inquisitive by nature he is not a research worker at all. A corollary of this is that no research worker worth his salt has ever been, or ever will be, dissuaded from satisfying his curiosity because the practical value of so doing cannot be determined. But, by the irony of nature, precisely such a person does ultimately ensure practical results, while the severely utilitarian exploiters of natural philosophy often end in blind alleys. As Professor Whitehead said, "The Romans were a great race, but they were cursed with the sterility which waits upon practicality. They did not improve upon the knowledge of their forefathers, and all their advances were confined to the minor technical details of engineering. They were not dreamers enough to arrive at new points of view which could give a more fundamental control over the forces of nature. No Roman lost his life because he was absorbed in the contemplation of a mathematical diagram."

This diagnosis, which we believe all men of science will accept, leads to the formulation of two general principles. The first is that the creation of an army of research workers is not, as some journalists fondly imagine, a mere question of how much money the nation is prepared to lay out in research, and the second is that the military metaphor, the conception of a strong silent man (whether a minister of state or another) marshalling a researching host, detailing a battalion here or a brigade there for the conquest of some well-defined objective, is false and misleading. As Sir Daniel Hall said in 1914, "the methods of research are anarchical, and ought to be continuously destructive of accepted opinions." Consequently, the real problems to be solved are, first, to devise a means of recognizing the genuine research worker when we see him, and, secondly, to make it possible for him to do his work with as little interference as possible.

The solution of the first problem involves the maintenance of the closest possible contact between the administrators of a national research policy and the universities. The type of mind needed for research is not revealed by the ordeal of a candidate for an official salary, not always by the written record of his past; it shows itself "in the impact of young thought upon young thought, of fresh thought on fresh thought, of hot thought on hot thought, in mirth and refutation, in ridicule and laughter—for these are the play of the natural mind"; and these things are known to the sympathetic teacher. If there were no other reason—and there are many others—an intimate understanding between the national research departments and the universities and colleges would be of vital importance. But, since the most direct way of associating research with teaching is to make teachers researchers, it follows that much of the national research should be carried out in the universities, and that as little as possible should be done to tempt those who are imbued with the spirit of research, and happen to be inspiring teachers, to withdraw into government offices or state institutes.

The second problem is to be solved by the creation of a machinery which safeguards the democratic principle that a minister answerable to Parliament is responsible for the expenditure of public moneys, but at the same time vests the control of research workers in the hands of men who are not tempted to do violence to the spirit of research, and will not be swayed either by ephemeral administrative interests or by clamour for quick returns from the investments made. Fortunately such a machinery already exists, and, with but slight modifications, should perform all the duties indicated. We refer to the developments following the constitution of a Committee of the Privy Council for Scientific and Industrial Research. The existing arrangements are detailed in the report of the Machinery of Government Committee.[1] Briefly, the position is that there is a Committee of Council, for whose expenditure the Lord President is responsible

[1] Cd. 9230, Sections 45-53. H.M. Stationery Office; through any bookseller. 1d.

to Parliament, while an advisory committee, consisting of men of science with an administrative chairman, is actually responsible for the research work undertaken, choice of staff and place; in fact, is charged with duties similar to those performed by the Medical Research Committee, to whom the Chairman of the National Health Insurance Joint Committee bears the same relation as does the Privy Council Committee, or rather the Lord President, to the Industrial and Scientific Advisory Council.

An obvious development of this system would be to retain the Privy Council Committee—the Ministerial Committee, as it is conveniently termed in the Machinery of Government Report—as the spending authority responsible to Parliament, and to place beside the existing Advisory Council for Scientific and Industrial Research (from whose title the word advisory might be omitted) a series of councils standing in the same relation to the Ministerial Committee, and covering the main fields of research. One, the Medical Research Council, would succeed the existing Medical Research Committee and continue and extend its work. A second council, dealing with the research duties of the Development Commissioners and of the Department of Agriculture, suggests itself at once. Each council would contain a majority of scientific men, and departmental interests would be represented by the addition to each of a competent number of assessors. The secretaries of these councils would constitute the administrative staff, would confer with one another, and each have direct access to the Ministerial Committee. As various departments of research, coming within the province of one or more of the main councils, were found to require special treatment, new bodies—subordinate to the councils in that their expenses were borne on the Council budgets, but, in practice, free to initiate and direct research—would be constituted on the same lines. The Fuel Research Board and the Industrial Fatigue Research Board are already examples of such organizations, while a Human Nutrition Research Board may soon be created. If the Lord President or the Ministerial Committee desire further secretarial assistance than that furnished by the Council secretaries, this should be provided, but only on the understanding that such a secretariat was not regarded as a channel through which proposals emanating from the councils must pass, or as an authority capable of vetoing or withholding such proposals from the Minister.

We believe that this machinery would prove well adapted to the needs of the time.

The reason suggested for vesting ministerial authority in the Lord President of the Council rather than in a Minister of Research may be thus stated: It is not expedient that the Minister should attempt to impress his personality upon the research work undertaken—as we said above, the metaphor of a general and an army is false—he is to ensure that public money is not wasted, that what is done, or proposed to be done, can be supported by rational argument, that any line of investigation demanded by the public is at least considered on its merits by those fit to give an opinion; he must not attempt to play providence or be an intellectual dictator. The general interests of, for instance, medical research should be entrusted to a separate council under the Lord President rather than incorporated in a Ministry of Health. The separation of the Council from any direct entanglement with executive departments gives it an impartiality which it might indeed possess *de facto* under a wise Minister of Health, but would not have *de jure;* obviously impartial, it would be better able to assist and co-operate with all departments of State needing its aid without risk of inter-departmental jealousies.

Further, the ranging side by side of scientific councils of equal status and bearing similar responsibilities makes for that interchange of methods and ideas which is so important in research. The number of cases in which different aspects of the same problems are of importance in different fields of activity is endless. The commercial value of research into synthetic dyes, its laboratory value in connexion with histological methods, its surgical value in relation to antiseptics; the importance of researches into metabolism from the point of view of the physician, the stock breeder and the agriculturist—these are simple illustrations.

Lastly, the constitution of the councils will ensure that contact with the seed-plots of research workers, the universities, which we believe to be of paramount importance.

THE REFORM OF MEDICAL EDUCATION.

WHEN, only a short generation ago, men of foresight began to say that medical education—if it was to be maintained efficient in face of the growing complexity of medicine—must be subsidized by Parliament, succeeding Chancellors of the Exchequer polished their wit on so preposterous a proposal. Times have changed, and we now find the Board of Education actually offering to make grants on certain conditions. The Board made its first grant to a medical school in 1908; in 1914 it made grants to eighteen of the twenty-two medical schools in England. The total amount so granted was only £40,000 among the eighteen, but the principle is thus admitted by Parliament. The belief that Mr. Fisher has been able to persuade the Chancellor of the Exchequer that more money must be found is encouraged by the invitation to the universities and institutions of university rank to submit written statements. This invitation was given at the interview representatives of these bodies had with the two Ministers last November. If the ideas expressed in the memorandum on medical education[1] issued by the Board of Education a few months ago are to be carried out the total of the grants must be increased many fold.

The general conditions upon which grants are made by the Board of Education are set out in a statement issued in 1911; in determining the question of making a grant and its amount, and in all its relations with university institutions the Board, it tells us, proceeds on certain general principles. It starts with the proposition that university education in medicine is necessary, and the first guiding principle is that a wide measure of freedom is fundamental to the proper development of true university work. The Board makes no attempt to prescribe the adoption of any model course or particular method of teaching. While it is concerned to know how the grant is used and is anxious that the school authorities should discuss the matter frankly with the visitors deputed by the Board to report upon the work of the school (those so far nominated being Sir Thomas Barlow and Sir Clifford Allbutt), the Board has always refrained from prescribing any particular method of allocating the additional revenue the grant provides. Again, in summarizing the remedial action which should be taken to meet certain defects observed in English medical education of the day, it is said that the first need is further financial assistance, for "it is

[1] Cd. 9124. His Majesty's Stationery Office; to be obtained through any bookseller, price 9d. net.

impossible to-day to teach medicine out of students' fees or uncertain endowments as it ought to be taught. The result is that medical education and research are starved." The second fundamental principle is that there is a need for direction as to the wise, economical, and purposive outlay of the income of the school. In the special circumstances of London this will probably be held to imply some degree of joint action between the several medical schools.

The application of the fundamental principles of the report made in its several sections, from the teaching of the preliminary sciences to instruction in preventive medicine, raises endless topics of discussion, and we are sure that it would be doing an injustice to Sir George Newman to assume that he or the Board of Education desire to impose the opinions therein expressed upon the teachers in the schools; for, again to quote, it is recognized that "we need throughout the medical curriculum—in preliminary science, intermediate and clinical subjects—an education of university standard, not subservient to an examination system, but directed and inspired by competent leaders in each medical faculty, leaders of educational purpose, attainment, and experience, of fertile intellect and forward-looking mind, devoted to their high calling as teachers and investigators."

The difficulty every reformer of medical education has to consider at the threshold of his inquiry is the question of time; he must so adjust his scheme of education that the average man who embraces the arduous calling of medicine may enter upon his life-work at a reasonably early age, otherwise the scheme will be too expensive in years of life, to say nothing of money. Sir George Newman, if we understand him aright, would save time by requiring the secondary school to give its pupils a thorough grounding in inorganic chemistry, in mechanics, and elementary physics, and in nature study and botany; and it is said that in some secondary schools it will be practicable within two years to cover the ground of all the preliminary sciences ancillary to medicine, making it unnecessary for the student to devote any time at the medical school to the preliminary study of these basic sciences. Yet it is recognized that at the university medical school facilities must still for the present be provided for this study.

It has been asked whether it is desirable that introductory courses in physics, chemistry, and biology should include reference to the later applications of these sciences. We conceive that the answer to this question must be in the negative: it can be of very little service to include in such courses reference to their applications to medicine, because the pupil at that stage knows nothing about medicine or the working of the healthy human body. On the other hand, it may be desirable to provide senior courses in medical chemistry, in biochemistry and medical physics, and possibly comparative biology and anatomy—all inspired by the intention of bringing these subjects into closer touch with anatomy, physiology, pharmacology, and pathology. For analogous reasons we would deprecate any strong pressure from the Board of Education or the General Medical Council to induce teachers in the medical schools to give instruction as to prevention of disease or disability at an early stage of the medical curriculum: before a student can profitably study the principles and the art of prevention he must have general notions as to what he is to prevent. The sooner a student gets to understand what is the final end of his teaching the better; there is still a good deal to be said for bringing the student at a very early stage of his career into contact with sick and injured persons.

CLINICAL MEETING OF THE BRITISH MEDICAL ASSOCIATION IN APRIL.

It was announced last week that the President and other officers of the Association, after consultation with the Director-General of the Army Medical Service and representatives of the Medical Service R.N., of the Medical Branch of the Royal Air Force, and of the Medical Services of the Dominions and of the United States, had resolved to recommend the British Medical Association to hold a special clinical and scientific meeting in London this spring. The recommendation was approved by the Council at its meeting on January 22nd, and committees have been appointed to make the necessary arrangements. The President (Sir Clifford Allbutt), in explaining to the Council how it was that Cambridge could not invite the Association to meet there this year, said that though the medical school was getting into order, many teachers had not yet returned and the laboratories were undermanned in the matter of lecturers and demonstrators. Medical students, including many who had been away in the war, were coming back in unexpected numbers, and it would take some time to get the laboratories into order for teaching. This re-establishment of the teaching work must precede the systematic resumption of research work. The university desired to have its medical school and all its laboratories in full working order when the Association visited Cambridge in 1920, and hoped then to demonstrate the results of the resumed research work. The President gave a sketch of the reasons that had moved him and the other officers of the Association to advise that a short scientific meeting should be held at an early date to discuss the work done during the war. The reasons for suggesting a meeting early in April were fully explained to the Council, which accepted the general recommendation and arranged that the meeting should take place during the second week in April, beginning, probably, on Tuesday, April 8th, and terminating not later than Friday, April 11th. There will be three sections—of medicine, of surgery, and of preventive medicine and pathology respectively. The President has consented to hold an informal reception on Tuesday, April 8th, and a committee has been appointed, with power to add to its number, to arrange the work of the sections. This committee is meeting on January 24th, and we hope to publish further particulars next week. Meanwhile it may be said that there is a strong opinion in favour of making the work of the meeting as practical as possible, by arranging in connexion with each section practical demonstrations of various kinds. A General Arrangements Committee has also been appointed to select a suitable place for the meetings, and also to arrange, as far as possible, to facilitate the provision of accommodation for visitors. This, it is recognized, will be a serious difficulty, as London is very full, but it is hoped that, partly through the assistance of the medical departments of the Dominion forces in respect of their own officers, and partly through private hospitality, this difficulty may be overcome. It is intended on each evening to hold receptions, which will afford members and others attending the meeting an opportunity of becoming better acquainted.

POST-GRADUATE MEDICAL STUDY WITH THE ARMIES IN THE FIELD.

Though hostilities have ceased the need for maintaining large armies in the field at present remains. On the Western front the British armies have had to advance to the Rhine, and our forces now extend in echelon from the sea coast, across northern France, across the whole breadth of Belgium, through the Rhenish provinces of Germany into Cologne. In order to provide adequate medical services for the troops it is certain that a large number of doctors must still be retained in the army. The regular R.A.M.C. cannot furnish all the medical officers who will be required, so that for some months at any rate many Territorial and temporary M.O.'s will be called upon to remain overseas.

One may hope that there will be no more wounded to deal with, excepting our wounded prisoners who will from time to time be transferred homewards from Germany. But there will always be a certain number of casualties from sickness. Nevertheless, it is recognized that the immediate future will be a period of dullness and possibly ennui, calling for no little patience on the part of those who continue on service abroad. The army authorities realizing this are initiating schemes for mental and physical diversion, and educational facilities in numerous directions are being offered both to officers and men. Classes are being started in many subjects both of a theoretical and practical nature. The professional education of medical officers will, we hope, be fostered to the utmost extent that circumstances permit. The exigencies of military service have given many of them scanty opportunities of keeping up or perfecting themselves in the medicine and surgery which is called for in civil practice. The heads of the army medical services are, we feel sure, anxious that every possible opportunity shall be given to men detained with the armies abroad to brush up the knowledge that may have rusted and to occupy themselves in acquiring fresh knowledge in special branches. The amount of clinical material available may not be varied and interesting enough to provide a complete post-graduate curriculum of the highest standard; there is ample material to justify some attempt in this direction.

RECONSTRUCTION OF THE FACTORY MEDICAL SERVICE.

THE Incorporated Association of Certifying Surgeons has issued a report on the Reconstruction of the Factory Medical Service which may be considered valuable, inasmuch as it reviews both the good points and defects of the service, and states what is required to promote efficiency from the point of view of those who have intimate acquaintance with the subject. The Association of Certifying Surgeons has always been particularly interested in bringing to the forefront the requirements of industrial hygiene. In view of the imminence of a general reconstruction of public medical services, it has been considered desirable in the public interest to review the position as it affects the office of certifying surgeon and to make recommendations. The opinion is strongly expressed that the present system has a solid foundation of usefulness, inasmuch as it is based on the two essential principles on which any plan of medical supervision of factory workers must be built up—individual medical examination and practical knowledge of the conditions of employment. It is stated, however, that the usefulness of the office has been very much impaired for many years through the want of efficient supervision and sympathetic control, though due credit is given for the improvements in the service effected by Sir Arthur Whitelegge. The authorization of the sixpenny examination directly after the Act of 1867, the fact that the service has been almost always entirely under lay control, and the circumstance that it has never been any one's special business to follow up the medical examinations of young people with a view to securing practical results, are regarded as mainly responsible for the defects of the system. The report advocates the formation of a well equipped and efficient medical department which should be administrative as well as executive, and that there should be a chief medical inspector directly responsible to a Minister of the Crown, with other medical inspectors, who, besides carrying out special work, should directly supervise all the duties of certifying surgeons. Whilst agreeing that a Ministry of Health should have certain powers of high control, it recommends that the whole of the Factory Department should be transferred to the Ministry of Labour. The main reasons for the suggested change are that a Ministry which has the economic problems of labour under its care and direction is the proper body to take charge of occupational, health and safety problems; that the Labour Exchanges could be made into useful adjuncts to medical examination by becoming the medium for securing employment suited to the physical condition of young persons; and that the health and welfare measures established by the Ministry of Munitions could be more suitably carried on by the Ministry of Labour than by the Home Office. There are twenty-nine recommendations, the most important, probably, being that outlining a practical method for co-ordinating the work of the certifying surgeon with that of the school medical officer and of colleagues in other districts, as well as for securing the observance of directions given to the employer or employed, through the medium of juvenile departments of Labour Exchanges, which it is stated should constitute the sole portal for juveniles to obtain state regulated employment. The heads of schools should ascertain from parents of children, on leaving, the nature of employment desired, and if this be state regulated, the Director of Education would forward to the Director of the Exchange particulars respecting the school medical history, the educational standard, and date of birth. On applying at the Labour Exchange the applicant for work, if duly qualified, would receive an "employment ticket," which, on engagement, would be endorsed with the name and address of the firm and returned to the exchange. The director would then forward to the employer the "record card" containing the essential particulars mentioned. This record card would be inspected by the certifying surgeon, who would fill in further particulars respecting the exact nature of employment, any fresh physical defects found, if passed or rejected, and conditions attached to certificates of fitness. The card would then be returned to the exchange and filed. The procedure would be repeated at each change of employment. In the case of a young person from another district, the director of the exchange would make application for his record card from the director of the district where he was last employed or at school. Inspectors attached to the exchange would visit both factories and homes to make sure of the directions of the certifying surgeon being carried out. Other recommendations deal with the extension of the certifying requirement to mines and warehouses and to young persons up to 18 years of age; to the making of conditions respecting safety, care and treatment; to the extension of national insurance to young persons of 14 and 15; and to the method of payment for services and the inadequacy of present fees. Representation is desired on the advisory body to be attached to the Ministry of Health. Lastly, suggestions are made for increasing efficiency in carrying out duties connected with industrial disease and poisoning, and with the granting of certificates under the Workmen's Compensation Act. Copies of the report can be obtained on application to Mr. E. A. Chambers, 16, John Dalton Street, Manchester.

COMPULSORY NOTIFICATION OF PHTHISIS IN FRANCE.

WITH the support of M. Clemenceau, who, it will not be forgotten, is a member of the medical profession, M. Mourier, Under Secretary of State for Health, is about to introduce into the Chamber of Deputies a bill to make the notification of open pulmonary tuberculosis compulsory throughout France. The first article of the bill provides that a patient suffering from open pulmonary tuberculosis shall be notified within eight days after diagnosis. The doctor will be required to state whether the necessary attention can be given and the necessary prophylactic measures taken. The medical authorities, if they think fit, will invite the patient to attend a dispensary, and will be authorized to insist on his entering an institution and to disinfect his residence. Departments

and communes are to provide treatment and institutions and to give a grant in aid to the patient's dependants. The preamble of the bill states that there are at present 55,000 soldiers in France under treatment in hospitals and institutions for tuberculosis. It is estimated that there are 500,000 persons suffering from tuberculosis in France at present. The estimated cost of the measure is an original charge of about three and a quarter millions sterling. The annual charge will be four millions, or some two and a third millions in excess of what is spent at present. M. Mourier has pointed out that the cost of the reform is fairly negligible when compared with the costs of a single munitions factory.

FUNCTIONAL ANOSMIA.

CAPTAIN DIGBY WHEELER has recorded, in the *Bulletin* of the Canadian Army Medical Corps, a curious case of complete functional loss of smell. The patient was a private who was buried by an explosive shell on April 27th, 1917; he was unconscious for three hours, but recovered while he was being dug out. He wished to carry on, but the M.O. sent him down. Three days later, at a base hospital, he noticed that he could smell nothing, and that all he ate tasted like so much pine wood. He went back to his unit, where good evidence that complete loss of smell persisted was afforded by the fact that he did not notice any offensive odour when uncovering the decomposed corpses of two Germans, though the men with him had to give up. In June he was again sent to hospital with a diagnosis of trench fever. He then presented gross symptoms of psychoneurosis, such as tremor and persistent occipital headaches, and was eventually admitted to the Granville Canadian Special Hospital at Buxton, where nothing abnormal was found beyond limitation of flexion of the back, fine tremor of the right leg, and complete loss of the sense of smell. He recognized sodium chloride as salt, syrup and glucose as sweet, dilute hydrochloric acid as acid, quassia as bitter, but he did not recognize the smell of ammonia, oil of lemon, hydrogen sulphide, rose water or peppermint; nor was he able to recognize cheese, butter, cabbage, potato, jam, beef, or mutton; that is to say, he retained only the four primary tastes. He was incapable of recognizing his food; in fact, he had lost that fine discrimination with which taste and not smell has usually been credited. After he had been a little over a fortnight in hospital application of a weak faradic current to the lumbar region was followed by restoration of practically full voluntary flexion in two minutes; two days later some time was spent in explaining to him his condition and assuring him that his sense of smell would be restored. A strong faradic current was applied to the back of the neck, and at the same time strong ammonia was held under his nose; at the end of a minute he recognized it as ammonia and was greatly pleased. He next recognized oil of lemon with the aid of a weaker current. Other substances were then given to him without the use of the current, and he identified each immediately. The foods previously used for testing were then given to him and he identified each immediately without the aid of the current. Then different foods were administered in combination, and he was able to tell accurately what he had been given.

HEALTH BOARDS AND MINISTRIES.

WE find that a letter from Dr. J. Brindley James, published at p. 90 of our last issue, has been interpreted to mean a claim by him to have been the first to suggest the appointment of a Ministry of Public Health. We did not take it in that sense, and the Ministry of Health about to be established is something different from a Ministry of Public Health. However this may be, it may be well to recall that Sir Benjamin Ward Richardson published a book entitled *A Ministry of Health* in 1879, and referred in its preface to a paper he had read before the Sanitary Institute Congress at Stafford in October of the previous year. The idea of a department of the State concerned with health is, of course, very much older. Pitt appointed a Board of Health in 1805, but it was allowed to lapse after his death. The first general Board of Health was created by the Government in 1848; it was reconstituted in 1854, and in the following year Sir John Simon became its medical officer. The board was abolished in 1858 by the Public Health Act of that year, and its duties were transferred to the Privy Council. Simon became medical officer to the Privy Council, and in that capacity he instituted in 1858 annual reports, treating each year special subjects from his own broad point of view, and expressed in his own terse and graphic phraseology. If his views had been allowed to prevail the department would have grown into a Ministry of Health. But in August, 1871, with the ostensible aim of co-ordinating the various public health authorities, the old Poor Law Board, the Local Government Act Office of the Home Office, and the medical department of the Privy Council were amalgamated to form the Local Government Board. This temporizing expedient is now to be undone. As is pointed out in the notice of Sir John Simon in the *Dictionary of National Biography*, he became chief officer of the new board in the belief that his independent powers would be extended rather than diminished, but neither the then president of the Board, nor its permanent secretary, took this view of the medical officer's right to initiative and administrative independence. Simon protested vigorously, but finally after a fierce battle with the Treasury his office was abolished. Simon was a very remarkable man, but the great services he might have rendered were cut short by official obstruction and political indifference. Again to quote from the biographical dictionary: "The most important feature of Simon's work was his insistence that practice should be based on scientific knowledge, and his recognition of the large fields for investigation without reference to immediate practical results. He was confident that such research (to use his own words) 'would lead to more precise and intimate knowledge of the causes and processes of important diseases, and thus augment, more and more, the vital resources of preventive medicine.'"

THE HALF-YEARLY INDEXES FOR 1918.

THE usual half-yearly indexes to the JOURNAL and the SUPPLEMENT are now ready for distribution. They will not, however, be issued with all copies of the JOURNAL. Any member or subscriber who desires to have one or both of the indexes can obtain a copy of what he wants by sending a post-card notifying his desire to the Acting Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2.

THE Swiney Prize for 1919 has been awarded to Dr. Charles Mercier for his work *Crime and Criminals*. He also received the prize in 1909 for his work *Criminal Responsibility*. The prize, which consists of a sum of £100 contained in a cup of the same value, was established under the will of Dr. George Swiney, who died in 1844. It is awarded every fifth year, on the anniversary of the testator's death, for the best published work on jurisprudence. The award is given alternately for medical and general jurisprudence, on the adjudication of the Royal Society of Arts and the Royal College of Physicians of London.

IT has been decided to give the name of M. Clemenceau to the sanatorium established at Bicêtre for soldiers discharged on account of tuberculosis. This honour is intended as a memorial of the French Premier's early association with the hospital, where he was *interne provisoire* in 1863.

THE WAR.

THE MACEDONIA DISPATCH.

A DISPATCH from General Sir George F. Milne, K.C.B., Commanding-in-Chief, British Salonica Force, was published in the *London Gazette* of January 22nd. It deals with the operations of the British army in Macedonia from October 1st, 1917, to the date of the dispatch, December 1st, 1918. By the end of September, 1917, roads both to the base and transversely had been greatly improved. In the middle of October it was possible to withdraw into reserve an infantry brigade which had been for over a year continuously in the front line. The winter set in early; it was severe, with heavy rain, snow, and frost, and as late as the beginning of March a blizzard of extraordinary severity brought deep snow, which hampered all movements. Operations began in the middle of April, and were at first limited to local raids. During June evidences of a lowering of the moral of the Bulgarian army became noticeable, and a general offensive of the allied armies was timed to take place during the first fortnight of September. The effective strength of the British troops at this most trying period of the year in Macedonia had, owing to climatic disease and a sudden and severe epidemic of influenza, fallen below one-half of the normal establishment. The attack on the mountain positions held by the enemy on September 18th and following days was costly; the 7th Battalion South Wales Borderers came out with 19 unwounded men and one wounded officer. On September 19th fighting was again severe, and the 65th Infantry Brigade, which had moved up rapidly during the night from an influenza observation camp, twice gallantly tried alone to capture "P" Ridge, but were driven back by overwhelming fire from the enemy's machine guns. Though the attack was only partially successful the enemy was severely shaken; he had suffered heavy casualties, losing over 1,200 in prisoners alone, and the whole of his reserves which might have been effectively employed elsewhere had been pinned down at this front. The results of these stubbornly contested operations were seen in the next few days. The enemy began rapidly to retire, and the first of the allies to enter Bulgaria was the Derbyshire Yeomanry, early on the morning of September 25th. The Bulgarians began negotiations for an armistice on the following day, and it was concluded at 2 a.m. on September 30th. On October 10th General Milne was appointed to command the allied troops operating against Turkey in Europe, and was instructed to transfer his army to that theatre of operations. In spite of the destruction of the railway and the absence of roads two British divisions and one French were on the River Maritza ready to seize the northern bridges and occupy Adrianople when, on the night of October 30th–31st, news was received of the conclusion of an armistice with Turkey. At that time the Greek troops under the command of General Milne were ready to take part in the advance on Constantinople.

All through the dispatch there are evidences of the way in which the army has been tried by disease; malaria and influenza had taken a heavy toll, both in strength and in numbers, but rather than miss the opportunity for which they had waited three years officers and men remained in the ranks till often they dropped from sheer exhaustion. "In this unhealthy climate," General Milne continues, "the efficient administration of the medical services is naturally of extreme importance, and in this respect a very high standard of efficiency has been attained. In an army saturated with malaria and passing through a severe outbreak of influenza, heavy calls were constantly made on the strength and devotion to duty of the Royal Army Medical Corps, of whose work I cannot speak too highly. I am much indebted to Major-General M. P. Holt, K.C.M.G., C.B., D.S.O., and his subordinates for the admirable manner in which their duties have been performed."

In further paragraphs General Milne writes of the indefatigable and devoted work of the nursing service and voluntary aid detachments during three years; in many instances they sacrificed their own health for the soldiers in their charge. Though the general service voluntary aid detachments arrived late in the theatre they proved of great value, and General Milne says that to all these ladies the British army in the Balkans, and many of our allies, owe a deep debt of gratitude. He expresses his thanks to the British Red Cross Society, to the army chaplains and to the Y.M.C.A. He also takes the opportunity of expressing his admiration of the work of the Scottish women's organizations serving with the Serbian army.

CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

Died on Service.

CAPTAIN J. FORTUNE, R.A.M.C.

Captain John Fortune, R.A.M.C., was reported as having died on service, in the casualty list published on January 13th. He was educated at the Universities of Edinburgh and Manchester, and graduated M.B. and Ch.B.Edin. in 1903, and M.D.Edin. in 1907, and also took the D.P.H. at Oxford in 1909. After filling the posts of senior assistant medical officer of Devon County Asylum, of assistant medical superintendent of Ladywell Sanatorium, Salford, and of assistant medical officer of health at Ipswich, he became medical officer of health and school medical officer of Newcastle-under-Lyme. He took a temporary commission as lieutenant in the R.A.M.C. on June 25th, 1917, and was promoted to captain after a year's service.

Wounded.

Captain S. McC. Boyd, R.A.M.C.(T.F.).

Repatriated.

Captain T. E. A. Carr, R.A.M.C. (temporary).
Captain A. B. Cluckie, R.A.M.C. (temporary).
Captain D. F. Dobson, R.A.M.C. (temporary).
Captain J. Findlay, R.A.M.C. (temporary).
Captain R. A. Leembruggen, R.A.M.C. (temporary).
Captain W. H. McCarter, R.A.M.C. (temporary).
Captain J. G. Moloney, R.A.M.C. (temporary).
Captain D. R. E. Roberts, R.A.M.C. (temporary).

DEATHS AMONG SONS OF MEDICAL MEN.

Raymond Treavor Wordsworth Howe, aged 18 years, son of Dr. Joseph Duncan Howe, of Preston, was drowned through the sinking of the ss. *Palmella*, on which he was wireless operator, while on his third voyage to Lisbon. The vessel left the Mersey on August 21st, 1917, and was torpedoed by an enemy submarine about noon on the following day, when about thirty miles south-west of Holyhead. The body was recovered a month later on the Cumberland coast. Dr. Howe had previously lost a son in the war.

[We shall be indebted to relatives of those who were killed in action or died in the war for information which will enable us to make these notes as complete and accurate as possible.]

HONOURS.

The Emperor of Japan has conferred the Order of the Sacred Treasure, First Class, upon Surgeon Vice Admiral Sir William H. Norman, K.C.B., Director-General, Medical Department, R.N., in recognition of distinguished services rendered during the war.

Surgeon Lieutenant Neville H. Smith, R.N., has received the Croix de Guerre awarded by the President of the French Republic for distinguished services rendered during the war.

The names of Lieut.-Colonel T. McDermott, R.A.M.C., and Lieutenant F. Evans, R.A.M.C.(T.F.), have been brought to the notice of the Secretary of State for War by Major-General F. C. Poole, General Officer Commanding, North Russian Expeditionary Force, for valuable and distinguished services rendered in connexion with the operations in North Russia.

A special Supplement to the *London Gazette* dated January 22nd contains a list of names submitted by General Sir E. H. H. Allenby, Commander-in-Chief, Egyptian Expeditionary Force, as "worthy of mention for their services during the period from March 16th, 1918, to September 18th, 1918." The list includes some sixty-nine medical officers of the A.M.S., R.A.M.C. (Regular, Special Reserve, and Territorial), Indian Medical Service, and Colonial Medical Services, as well as some sixty-four warrant and non-commissioned officers and men of the R.A.M.C. and Dominion Medical Services, and five members of the Indian Subordinate Medical Department.

Captain J. D. Shapland, R.G.A., son of Dr. John Dee Shapland of Brixton Hill, has been awarded the Military Cross for services rendered with the Salonica force.

England and Wales.

THE LIVERPOOL MEDICAL INSTITUTION.

THE report for the year 1918, presented to the annual meeting of the Liverpool Medical Institution on January 16th, states that the number of members has diminished, owing to deaths and resignations during the war; but it is confidently anticipated that with the return of normal conditions there will be a large influx of new members. The library, to which numerous additions were made, has been largely used by medical members of the Overseas Forces and officers of the United States Medical Corps, who have also attended meetings in response to a welcome extended to them by the council. The Institution has decided to promote a memorial to the late Hugh Owen Thomas, the Liverpool surgeon famous throughout the world for his pioneer work in orthopaedics, and as the inventor of the splints which bear his name. A committee has been appointed, and will make an appeal early in the year. It is hoped to endow an oration to be delivered in the Medical Institution, and also to provide a bust, or some other permanent and visible memorial, of Mr. Thomas. The following list of officers and members of council was adopted. Those marked with an asterisk did not hold the same office last year.

President: W. Thelwall Thomas.
Vice-Presidents: K. W. Monsarrat, L. Morgan, *Hubert Armstrong, and *A. Craigmile.
Treasurer: C. Thurstan Holland.
General Secretary: W. Murray Cairns.
Secretary of Ordinary Meetings: T. C. Litler-Jones.
Secretary of Pathological Meetings: H. Leith Murray.
Librarian and Editor of the Journal: R. W. MacKenna.
Council: J. H. Abram, F. S. Heaney, Mary B. Lee, C. J. Macalister, Courtenay Yorke, *G. C. E. Simpson, *F. W. Bailey, *J. Martin Beattie, *Owen Bowen, *Frances Ivens, *F. C. Larkin, and *R. G. Sheldon.
Auditors: *Reginald T. Bailey, *F. S. Heaney.

AMENDMENT OF THE LAWS AS TO MENTAL DISORDER AND DEFECT.

At a conference of visiting committees of the asylums in England and Wales, held at the Guildhall, London, on October 29th, 1918, a committee was appointed to draft recommendations with regard to amendments necessary in the Lunacy Acts and the Mental Deficiency Act. A report has now been circulated and will be considered at an adjourned meeting of the conference at the Guildhall on February 5th, at 3 p.m. The committee was unanimous that the present lunacy laws had been passed with little or no regard to securing proper treatment in cases of incipient insanity, so that many persons, owing to the objection of their relatives to the necessity of certification, were kept in their homes so long that when ultimately sent to an asylum their cure, which might have been effected by early scientific treatment, had become hopeless. The committee will advise the conference to express in the strongest possible terms its opinion that the laws in question are effete and that their drastic amendment is a matter of urgent national importance. The committee advised that the words "pauper," "lunatic," "lunacy," and "asylum" should be deleted from the laws, and recommended that encouragement should be given to the establishment by local authorities of special mental hospitals for treatment either of incipient or actual mental disease, each with an in-patient and out-patient department; no patient attending either the in-patient or out-patient department should be placed under certification until it became necessary in the opinion of the medical director of the hospital to transfer the patient to an institution now known as an asylum. It was recommended that such special mental hospitals should not be subject to the supervision of the Board of Control and that no report should be made to that Board concerning any patient under treatment in such a hospital. It also advised that a special mental hospital (psychiatric clinic) should be established in connexion with every medical school and proper facilities provided therein for research and for teaching and training. Another recommendation was that voluntary boarders should be admitted to the institutions now known as public asylums. The opinion was expressed that every medical officer appointed to any institution for the care and treatment of the mentally afflicted should be required within a period of two years from his appointment to hold a recognized diploma showing that he is specially skilled in the science and cure of mental ailments. Among the members of the committee were Dr. E. Goodall, medical superintendent of the Cardiff Mental Hospital; Dr. T. Shaw Bolton, medical superintendent of the West Riding Asylum, Wakefield; Dr. R. C. Stewart, medical superintendent of the County Lunatic Asylum, Narborough; and Dr. W. F. Nelis, medical superintendent of Newport Borough Asylum.

MEDICAL TREATMENT OF SCHOOL CHILDREN IN LONDON.

At its meeting on January 21st the London County Council agreed to extend considerably the provision of medical and dental treatment for school children. The principal need was stated to be an increase of accommodation for treating minor ailments and dental cases. Last year 25 centres were utilized for the treatment of minor ailments, but the return of attendances of children at the centres was 4,000 in excess of the number provided for during the recent half-year. For 1919–20 the total number of centres will be 40; this will provide for the treatment of 37,840 cases. The provision of dental treatment is to be for 100,980 cases at 49 centres, instead of 87,780 cases at 44 centres; while the provision for the treatment of eye defects will be for 29,640 cases at 27 centres; of ear, nose, and throat defects 14,840 cases at 23 centres, and of ringworm 2,138 cases at 11 centres. The total cost of the treatment in 1919–20 is estimated at £52,450, an increase of £8,000 upon the amount for the current year. The special provision for the medical and dental treatment of children holding scholarships in secondary and trade schools is also being amplified.

Correspondence.

THE MORTALITY OF CASES OF FRACTURED FEMUR.

SIR,—In your issue for January 11th you have a review of *The Early Treatment of War Wounds*, by my friend Colonel H. M. W. Gray, and in it I find this statement: "Whereas in the earlier part of the war the mortality of cases of fractured femur was 50 per cent. in the casualty clearing stations, it dropped . . . in 1917 to 15.6 per cent."

Colonel Gray did not take up the work of a consulting surgeon at the front till the summer of 1916, so it is evident that the "50 per cent. in the earlier part of the war" was not a matter of his own observation. Who is responsible for the figure I do not know, but, whoever he is, the statement is quite incorrect.

During the summer of 1915 I personally collected, and I still have in my possession, the records of 1,008 cases of fracture of the femur, this being practically the total number passed through all the casualty clearing stations then at the front, and the average mortality of the whole was exactly 16 per cent. in the casualty clearing stations themselves; 4 per cent. more had died in the field ambulances, so that the total mortality at the front was 20 per cent.

I subsequently ascertained that the mortality at the base hospitals in France and in England had been approximately another 20 per cent., giving a total death-rate of 40 per cent.

The period of observation covered the fighting of Neuve Chapelle, Hill 60, the second battle of Ypres, and Festubert; all in 1915.

At the present time, as a result of improvements of many kinds, and due to many surgeons, I believe the total mortality is considerably less than 20 per cent., including both the front and the base.—I am, etc.,

G.H.Q., France, Jan. 14th. ANTHONY BOWLBY.

GLYCOSURIA IN ELDERLY PERSONS.

SIR,—In his interesting article on the climacteric of life, in the JOURNAL of January 18th, Dr. Guthrie Rankin supports the view that a moderate amount of sugar in the urine of elderly people need not cause alarm; it has, however, been my unfortunate experience to meet with a good many tragedies directly attributable to its acceptance. It is no doubt true that "many patients may live in comfort and do a fair amount of work over many years with sugar constantly in the urine," but it is equally true that many

suffer from complications, such as neuritis, boils, eczema, gangrene, etc., and a considerable proportion eventually die of coma, as happened to the illustrative case (G. D.) quoted by Dr. Rankin. There appear to be at least two types of case, chemically and pathologically as well as clinically, and the difference depends largely on the sugar content of the blood. In my experience even a moderate excretion of sugar associated with hyperglycaemia always leads in the course of time to complications, whether the patient is old or young, whereas glycosuria unattended by an excess of sugar in the blood under test conditions is not likely to give rise to trouble or shorten life, especially if, as happens so often in elderly people, the reducing substance in the urine is not really a sugar but the ketonic acid I have described under the name of "pseudo-laevulose." Before coming to the conclusion that a "glycosuria" is of small moment, therefore, it is advisable to make sure of the nature of the "sugar" and also to determine whether the blood sugar varies only within normal limits. When these points have been definitely ascertained the treatment can be adapted accordingly and a reliable prognosis offered.

Dr. Guthrie Rankin's experience of the modern method of treating diabetes seems to have been rather unfortunate, for I find that a recurrence of the glycosuria is exceptional and does not occur if the diet is correctly balanced as regards fat and protein, as well as carbohydrate, and the patient is properly trained in its use. I agree that elderly people do not stand starvation well, but as a rule actual fasting is not necessary to secure a normal blood sugar and a sugar-free urine if a carefully arranged system of dieting is followed. The secret of success is individualization of the treatment and education of the patient, so that he may follow his diet intelligently, and it is for lack of these precautions, and in consequence of a too rigid adherence to a set formula of treatment, I am convinced, that some have the unhappy experience of being "again, and yet again, cleansed in the purgatorial fires," as Dr. Rankin picturesquely puts it.—I am, etc.,

London, W., Jan. 20th. P. J. CAMMIDGE.

INCREASED GRANTS TO INSURANCE PRACTITIONERS.

SIR,—Dr. Savege (JOURNAL, January 11th, p. 57) expresses the opinion that the rural practitioner who dispenses all his own medicines is going to enjoy a very considerable advantage in the increased grant allocation over the practitioner who happens to reside within a mile of a chemist or two. May I remind him that a large number of panel doctors who are fortunate enough to have a chemist in their neighbourhood do not dispense at all, certainly not for insured persons? They have given it up since the Act was passed, as it was a dead loss to them. In Northumberland no doctor who dispenses for panel patients has ever had more than 1s. 6d. a head per annum, and since January, 1917, we have received only 1s. a head. This month we have received a sum out of the drug fund representing what we were paid short in 1917, but it does not represent 1s. 6d., but is nearer 1s. 4d. for that year. Men who do not dispense at all, and men who do part dispensing only, I think do not, indeed cannot, know the time wasted, the worry, trouble, and expense of the man who is obliged to make up and send out nearly the whole of his medicines. To take my own case—and there must be many such—I have for a long number of years before the Insurance Act been in the habit of sending bottles, etc., by post, by hand by rural postmen, by rail, by tradesmen's and carriers' carts, etc., and have been accustomed to pay these various people for doing it. These items, small in themselves, but frequent, have run me into something like £20 and more every year. Since the Insurance Act I have continued to do it even for insured people, as it was practically impossible to stop doing so. How, indeed, are people from three to eight miles away going to get their medicines otherwise? It is impossible to collect these small sums individually from the people, so we let it go.

At the end of every long day one has to begin putting up bottles, labelling, and packing for post or rail; all this takes time. Frequently after returning from a long morning round I have to pack up bottles for the post, which leaves at 4.30 p.m., the only one we have, before I can get away on my next round. My servant every morning has to go out early with medicines for the different rural postmen, and somebody has every day to watch for carts, etc., likely to convey medicine to some outlandish spot. This all means valuable time gone when one might be better employed. Our troubles do not cease with simply filling the bottle.

For finding all drugs, bottles, wrapping, cost of carriage, time, and vexation, we in Northumberland get something under 1s. 6d. a head for the insured person. I do not think many of us would be left dispensing if we had a chemist about. I do not think Dr. Savege should begrudge any little extra pay we may get for what we do. The interests of the rural doctor were quite forgotten when the Insurance Act was framed, and he has had to fight his own battles with the Commissioners, and at every Panel Conference in London, and it is solely through his own efforts that his voice has been heard. Now there seems some chance of his coming into his own.—I am, etc.,

Felton, Northumberland, Jan. 12th. ROBERT A. WELSH.

A SCHEME FOR AUXILIARY CIVILIAN HOSPITALS.

SIR,—For an efficient medical service there are needed new institutions for several purposes: Hospitals for incipient insanity, farm colonies for tuberculous disease, infirmaries for advanced tuberculous patients, convalescent homes. I wish to suggest the formation of hospitals for the less severe illnesses, which at the same time require rest in bed and nursing; such hospitals would bear somewhat the same relation to the present voluntary general hospitals that the auxiliary military hospitals bear to the central military hospital. Examples of cases for which they would be suitable would be: Some acute febrile diseases, gastric ulcers and other gastro-intestinal diseases; infantile complaints (errors in feeding, marasmus, diarrhoea); miscarriages, midwifery cases; ulcers, fistulas, abscesses, and other minor surgical cases; simple fractures; and chronic cases transferred from the central hospital. That is, the patients would be such as require rest in bed and nursing and minor operations, but do not require the special skill, experience, and equipment which are obtainable at our present hospitals.

1. *Construction and Equipment.*—The immense number of wooden and other huts which will presently be at disposal could be utilized; the ideal plan would be to have a house with ground adjoining, the house forming the administration block, the huts being placed in the ground to form the wards, ward kitchens, lavatories, and latrines; the need for providing for male and female patients makes the design rather more complicated than is the case with a military hospital. The beds and other equipment could be provided also from those no longer needed by the army. The temporary nature of the wards would be an advantage, as it would enable changes to be made according to experience. The very solid and expensive method of building hospitals in the past has been a fruitful cause of delay in much needed reform.

2. *Finance.*—Voluntary military hospitals have been successfully financed on the basis of a payment of 3s. to 3s. 6d. per occupied bed a day, but this has only been possible because a very large amount of the work in both wards and kitchen has been performed voluntarily and with the help of subscriptions. Kitchen work and cleaning (by ward maids) would under the scheme proposed be performed by paid labour, and 4s. 6d. to 5s. should therefore be allowed per bed a day. The rent and upkeep of the buildings should be provided by the municipal authority, which would receive a grant of 50 per cent. from the Ministry of Health, and the sum payable per patient should be shared between the Insurance Commission and the municipal authority.

3. *Medical Staff.*—The medical staff would be all the doctors in the area, each attending his own cases. National insurance patients (probably in the near future including women and children) would be treated without extra fee, as the treatment would be less rather than more burdensome than when they had to be visited at their own homes. Private patients would be charged the usual fee. I would suggest a fee of £2 2s. for each operation requiring chloroform or ether, and £1 1s. if only gas was needed. These would be low fees for some operations, but fully adequate for others. If any doctor did not wish to operate or give an anaesthetic he would be at liberty to ask any other to act in his place. The fee should come from the same

source as the daily payment for patients, except in the case of persons having an income above a certain amount. Other special fees might be paid for sight-testing (5s.), and bacteriological examination (according to some acknowledged rates in general use). In addition to its use for in-patients, the hospital might be used for minor casualties, and operations on out-patients (insertion of sutures, and opening abscesses). This would greatly relieve the out-patient departments of the large hospitals, and would enable doctors to do far more for their own patients than at present.

4. *The Nursing Staff* should be on the plan of a V.A.D. hospital; to accomplish this it would be necessary to obtain the active interest of the Red Cross Society and the St. John Ambulance Brigade. There must be large numbers of V.A.D. nurses who would be willing to continue the work they have been doing (perhaps with shorter hours, and for a few weeks at a time instead of continuously); it would be a means of keeping active one of the many forms of useful voluntary work which the war has brought into being. No suspicion of charity should be entertained in regard to this any more than with many other forms of voluntary work; a certain number of the patients might well be the sick and wounded soldiers for whom the V.A.D. nurses have already been working.

5. *Administration.*—There would be a paid matron, sisters, and kitchen staff. The secretarial work might possibly be undertaken by those who have had experience of this work in V.A.D. hospitals, or might have to be paid for as part time work by a clerk.

6. *Management.*—A Committee of Management should represent the medical staff, the V.A. detachment, the municipal authority, the Insurance Committee, and the townspeople; the help of an active member of the committee of a general hospital would be a great advantage.

Hospitals on the lines sketched above would be a boon to many patients at present unable to be properly cared for in their illnesses; they would relieve the strain on the present voluntary hospitals, and would take from these the slighter and more chronic cases which occupy the beds, but do not need specially skilled treatment; they would be an advantage to doctors in that they would enable them to take a greater interest in their work, to do more themselves for their own patients, making it possible for every doctor to have some hospital work, and they would utilize the services of those who have begun to have some knowledge of nursing as members of voluntary aid detachments, and whose experience would otherwise be lost.—I am, etc.,

F. CARR BOTTOMLEY, M.D.Camb.

Boscombe, Hants, Nov. 28th, 1918.

GRATUITIES OF TERRITORIAL MEDICAL OFFICERS.

SIR,—I have noted with interest the remarks in your columns on the Army Order of November 29th, 1918, and its effect on the gratuities of the Territorial medical officers. The R.A.M.C.(T.F.) is, I think, the only corps in which temporary rank is not granted.

I suggest that it would be fair if an Army Order were issued that in the R.A.M.C. gratuities on acting rank would be issued to all officers who had held such acting rank for six months and still held it on demobilization or on November 11th, 1918.

Owing to the variable policy of the War Office, it was largely a matter of chance whether an officer got temporary or acting rank in the R.A.M.C.(T.F.)—in fact, some of the more fortunate got permanent promotion where others for the same work obtained only acting rank.

What the future fate of the Territorial Force may be intended to be is not yet announced. What the fate of the R.A.M.C.(T.F.) and (S. Reserve) will be unless there is retrospective redress or general conscription is obvious.

In your issue of January 18th (p. 88, "The Services") you publish an Army Order with reference to acting Majors T.C., and there was a similar order about a year before regarding acting Lieut.-Colonels T.C. This order shows, I think, what the intended policy was with regard to T.F., S.R., and T.C.—unless, indeed, it was part of a deliberate policy, as is suggested by your correspondent "Contemptible T.F. M.O."

But it might interest the Association and the T.C. officers to note that a contract was broken when the £60 gratuity was withheld. Would a court of law assess damages at the amount promised under this Order?—I am, etc.,

January 22nd. T.F. RESERVIST.

MEDICAL DEMOBILIZATION AND RESETTLEMENT.

SIR,—The scheme under which the rival claims of medical officers for demobilization will be adjudicated has now been published, and also leading articles have appeared in the medical press pointing out how best the medical officers who return to nothing can reasonably hope to become established. It is opportune, therefore, to offer certain comments.

Age.—Why does the scheme stop at 45? Is an officer of age 50, 55, or even 60, equally able to re-establish himself in practice as another of age 40? Only one additional point is given him. This is an impossible task for the senior officer, and therefore he is entitled to special consideration. On the combatant side "every officer of 51 years and over" can at once claim his demobilization in accordance with the War Office decision of January 5th, 1919, and every medical officer over that age should be similarly treated.

Service.—Many medical officers, although they may have held a commission for four or even more years, yet have never been away from their practices, but have drawn their military pay, retained their practices, and with the best intention in the world have obtained newly arrived families as permanent patients. The colleague medical officer absent for a similar period of time may have to start again through no fault of his own; the stay-at-home has financially improved his position. Yet no allowance is made in the committee's scheme for absence on military duty.

Volunteers.—No difference is made between a medical officer who volunteered and another who had to be dragged into the army. Both classes are treated alike. Surely the scheme fails here also.

These omissions should be included at once amongst the six additional points for which extra points are allowed, every six months of absence obtaining at least three points.

Then with regard to the question of re-establishment. The Association should take steps to ensure that positions for medical officers in the Ministries of Pensions, National Service, and Labour should be offered to returned medical officers, if they ask for a temporary or permanent post, in preference to all civilian practitioners; and, what is more, that the latter should be discharged from these duties directly a returned medical officer is available and requires something wherewith to carry on. Committees of hospitals, etc., should be urged to give preference to demobilized medical officers.

The Central Medical War Committee would be well advised at once to appoint a small energetic and sympathetic subcommittee, whose reference should be to assist in every way possible the re-establishment of returned demobilized medical officers who may find themselves in need of such assistance in the difficult situation they are bound to find themselves in. Better still if one of the demobilized hard-hit medical officers is given the secretaryship and a few of his colleagues are placed on the committee. Until all are established once again, the duties of such a committee cannot be considered to have ceased. It would be a grand thing if that committee also had included in its reference assistance to medical officers in pressing every claim possible before the Minister of Pensions for injuries or diseases caused or aggravated by military service.

For obvious reasons I enclose my card, signing myself, Yours, etc.,

January 14th. CARRY ON, R.A.M.C.

SIR,—The question of demobilization is naturally exercising the minds of those military medical officers who are anxious to return to civil life as early as possible. So far as I am able to gather from the various memoranda which have been published on the subject, very little consideration is to be given to those medical men who have not got actual practices to return to. If this method is to be

adhered to, considerable hardships will be caused to those younger men who at the commencement of the war were students or only recently qualified, and who came forward and offered their services to the Government at once. The majority of these men have never had the opportunity of obtaining clinical experience, and many have still courses of study to complete for university degrees.

It would seem to be of the highest importance to the State that such men should be given an opportunity to make themselves efficient practitioners. If it is not practicable to demobilize medical officers in order of their length of service overseas—the only fair method—would it not be possible to consider all men intending to take up resident house appointments or to continue classes for a definite degree as coming under Group 43 (students), and release them from the army at once? I would further point out that although more than two months have elapsed since the signing of the armistice, the Ministry of National Service has made no efforts to ascertain the wishes and claims of medical officers in this country regarding demobilization. On the other hand, instances have come to notice where the Ministry has demobilized not only men whose wishes were never consulted and who were actually desirous of remaining a little longer in the army, but also men whose age and service gave them little grounds for consideration.—I am, etc.,

G. F. P. GIBBONS,
B.E.F., Jan. 11th. Major R.A.M.C.(S.R.).

SIR,—I wish to record a protest against the heavy and unfair penalization of men with whole-time appointments in the public health service by the system of precedence outlined in the SUPPLEMENT of January 11th. It is equivalent to over two years' service, or fifteen years of age, or possibly more in certain cases.

A man in a public service may have a job to go back to, but he has lost so many years of seniority through the war, and the position to which he returns is certainly of much less value than one to which he would have attained but for the war, which is practically equivalent to a heavy financial loss.

The great majority of general practitioners should be able to receive the bulk of their practice owing to the real shortage of medical men in civil life, apart from the fact that many have received a part of the proceeds of their practice while in the army, while most whole-timers have received nothing.

The whole-timers may not have lost as much income as the general practitioners, because they had it not to lose, but they will be much worse off than they were because they cannot increase their salaries as the practitioner can his fees to recoup his loss. Time is of great value to us personally, as it is a dogma of our service that a man rarely receives a better appointment after he is 40.—I am, etc.,

PUBLIC HEALTH OFFICER AND CAPTAIN R.A.M.C.
January 12th.

SIR,—The proposals for the demobilization of medical men under the age of 30, outlined in Part II of the scheme prepared by the Central Medical War Committee, constitute such a violation of accepted principles that it is surprising that the Ministry of National Service should have thought fit to adopt them.

Nobody can reasonably take exception to the general proposal that the older men should be demobilized first. But the arbitrary decision to release every man of 30 and over, before men slightly junior in age, without regard to rank, length of service, and date of qualification is so palpably unjust, that a modification of this ruling is surely called for immediately.

Under existing conditions a man of 29 who qualified a year ago, and who has had but twelve months' service in the army, will actually take precedence of other men who, by qualifying young, have been able to give their services to the country continuously since the commencement of the war. Neither by reason of length of service nor in virtue of any experience in professional work has such a man the slightest right to early demobilization.

The Ministry of National Service ought to realize that in disregarding long and continuous service in the case of medical men under 30, it is subverting a principle which is being universally applied, and which every medical officer of four years' service has naturally assumed would govern the conditions of his own release.—I am, etc.,

B.E.F., Jan. 17th. W. R. H.

GONORRHOEA AND DEMOBILIZATION.

SIR,—I read with surprise and dismay the letter by Mr. Macalpine on the above subject which appeared in the JOURNAL of January 18th, p. 87. He suggests that each man on demobilization should be compelled (*sic*) to micturate in the presence of the M.O. so that a search for threads in the urine might be made and probable victims of gonorrhoea thus detected.

I wonder if the author of this letter has given serious consideration to the amount of injustice and irreparable harm, with little benefit, that would accrue from the adoption of such a procedure. A vast army of gonorrhoeal hypochondriacs already exists—men melancholic and introspective, men who are perpetually squeezing and milking the penis for secretions and searching eagerly in the urine for threads. What effect would it have upon such men if it was brought to their notice that the M.O. attaches great importance to these threads, and, what is more, their freedom depends upon their presence or absence?

At the present time, when victims of venereal disease are compelled to report sick, what proportion do? Some surreptitiously swallow capsules by the hundred, others seek outside advice, and others "carry on" trusting to *vis medicatrix naturae* for ultimate cure, but never report. How many, then, would present themselves for urine examination? If they did, what subterfuges would be adopted by the knowing to disguise the test. And the test itself, what value would it be? One might as well suggest that each man should expectorate in the presence of his M.O., his discharge or detention to depend upon the nummular character of his sputum.

The crux of the whole matter lies in the infectivity of the individual—namely, whether he harbours the gonococcus or not, and threads in the urine are not of pathognomonic significance.

When we consider that about 80 per cent. of the population have had gonorrhoea and that a vast number of men pass threads who have never had the disease, and, finally, when we note the present phase or craze for irrigations, thus irritating the delicate urethral mucous membrane into shedding its epithelium, one can readily see of what value ocular inspection of the urine would be.

A more feasible procedure would be to give each man on discharge a pamphlet advising him, if he has or ever had the "clap," to seek advice at a clinic or from a venereologist. Then an expert could carry out a proper examination; the true significance of a thread can only be determined after a careful exploration of the seminal vesicles and prostate, without and with gentle massage of these organs (in case of sealed prostatitis), examination of Cowper's and Tyson's glands must be made, and patient microscopic search for the gonococcus in all discharges. An olivary bougie ought to be passed in order to detect any signs of infiltration (soft or hard); and, finally, a careful urethroscopical examination of the whole urethral mucous membrane must be made, when often pathological changes can be detected not recognized by any other means. A man must also be questioned as to his marital relation; he must be warned of the possibility of having infected his wife, and so reinfecting himself. The whole problem bristles with difficulties, but if this scourge is to be eradicated the female element must be considered as well, and often, with a little tact, the patient will get his wife to seek medical advice. The treatment of venereal diseases has for decades been subterranean, and in the hands of the unqualified; it is now emerging from that atmosphere, the public and the medical profession are beginning to consider these diseases in the light of other diseases, and an opportunity is now presenting itself to raise the standard of this specialty.—I am, etc.,

Manchester, Jan. 18th. M. W. BROWDY, M.B.

RISKS AND REWARDS.

SIR,—With reference to the letter by "Fairplay" on this subject (BRITISH MEDICAL JOURNAL, January 4th, p. 25), I think his remarks are more suitable for publication in a military than in a medical journal. It is the custom in the

army that periodical rewards should be given whenever there is a war in progress, but these are given on a fixed system.

Rewards can be divided into two classes: Those most worth having are the immediate awards—the V.C., D.S.O., and M.C., for valour. In addition, a certain number are given for general good service. As far as the risks go, the man who does the dirtiest and most dangerous work, and gets least pay and rewards, is the infantry soldier, so that the R.A.M.C. is not the only branch of the service that may have a grievance.

Rewards other than immediate are given chiefly to certain appointments, such as those of D.M.S., D.D.M.S., A.D.M.S. and their staffs; ambulance and hospital commanders, and consultants.

In an ordinary group of medical officers a few have exceptional merit, a few are exceptionally bad, but the majority have a fairly uniform standard, and as the ordinary military work is very cut and dried it is very hard to choose amongst the majority class. Selection, therefore, naturally goes by seniority and responsibility, and I have found that temporary officers are just as keen on seniority as anybody else quite irrespective of age and medical experience.

That commanding officers should get most of the rewards seems only fair, as if things go wrong they get the blame. In the R.A.M.C. the regulars get most of the administrative appointments, as they are not only the seniors but have had the most experience.

The point I wish to make is that rewards have been for years, and still are, given on a system prevailing in the army. Whether this system is right or wrong may be a moot point, but the regular R.A.M.C. is not responsible for it. As a matter of fact the majority of awards are selected by combatant officers, and not by the R.A.M.C. at all. The regular R.A.M.C. have come in for abuse lately, but I do not think they should be blamed for the system of giving rewards, so long prevalent in the army, and for which they are in no way responsible.—I am, etc.,

B.E.F., Jan. 14th. UNDECORATED REGULAR.

"RURAL WATER SUPPLIES AND THEIR PURIFICATION."

SIR,—Your reviewer, in his kindly notice of my little volume on *Rural Water Supplies and Their Purification*, unintentionally does me a slight disservice, for which I am perhaps to blame for not having made my intentions absolutely clear to the reader. Thus he says:

> The practical sanitarian will, however, ask himself whether Sir Alexander Houston has not taken too narrow a view of the whole problem, and whether it would not be better to improve the whole supply at its source by structural alteration of the filtration plant, etc., rather than every day to treat 10 gallons in a cistern.

I am, of course, entirely in favour of public water supplies and in communal and collective effort to accomplish water purification. My little book was written with the avowed object of trying to help those who, as regards water supply, are cut off from collective aid, and are obliged as individuals to make the best of existing circumstances. I quite agree, however, with your reviewer when he says:

> One lays down the book with the feeling that water purification, which can be easily accomplished by communal and collective effort, presents great difficulty to the individual.

It was this feeling that induced the author to say in conclusion:

> In this brief account of Rural Water Supplies and their Purification the author has doubtless failed in many particulars, but if the reader cares to write and explain his (or her) difficulties, or to offer any suggestions or criticisms, the author will endeavour to answer any such communications to the best of his ability.

—I am, etc.,

London, Jan. 21st. A. C. HOUSTON.

ANTE-NATAL TREATMENT OF VENEREAL DISEASES.

SIR,—I would just like, with your permission, to say that, as far as I can remember, no one in the speeches that were made at the London Hospital claimed that it and the Thavies Inn were the only places where residential treatment was provided for ante-natal treatment of venereal disease. Any of us would, I am sure, have deeply regretted to have said anything which could detract from the merit of the pioneer and excellent work done by the Lock Hospital, in this or any other direction—work done under great difficulties during many years when no other hospital was treating these cases. All credit to that hospital.—I am, etc.,

London Hospital. KNUTSFORD.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE University Senate on January 17th gave approval by 162 votes to 14 to the report of the special syndicate on the rearrangement of the Previous Examination, Part I, according to which Greek is made an optional subject, together with certain modern languages. The additional subjects of the "Little-go" are also abolished.

Dr. W. H. R. Rivers, F.R.S., formerly University Lecturer in Physiology and Experimental Psychology, has been appointed to the newly-created post of Praelector in Natural Sciences at St. John's College.

The following medical degrees have been conferred:

M.B. AND B.CH.—H. T. H. Butt.
M.B.—S. Riddiough, L. G. Higgins, P. K. Liang.

UNIVERSITY OF EDINBURGH.

AT the meeting of the University Court on January 13th, when the scheme for the establishment of a Chair of Mental Diseases in the University to which reference was made last week was approved, the Dean of the Faculty of Medicine reported that Dr. R. Murray Leslie of London (Ettles Scholar in Medicine in 1892) had provided an endowment for a gold medal in connexion with the Ettles scholarship in medicine, in memory of his mother, to be known as "the Leslie gold medal in medicine." The Court recorded its cordial thanks to the donor.

At the same meeting the following additional examiners were appointed or reappointed: Dr. Dawson Turner (Medical Physics), G. P. Yule, M.A., B.Sc. (Public Health), Professor Farmer (Botany), Professor J. P. Hill, F.R.S. (Natural History), Dr. A. Lauder (Chemistry), Professor J. A. Gunn (Materia Medica), J. H. Pringle, M.B., F.R.C.S. (Surgery); Professor A. Donald (Midwifery).

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FINAL EXAMINATION.—*Medicine:* D. A. Stegman, T. F. Minford, J. M. Speirs, R. L. Wright, J. A. S. Campbell. *Surgery:* W. Gibb, J. A. S. Campbell. *Midwifery:* Hassan Amin Madwar, T. F. Minford, G. L. Stanley, J. M. Speirs, R. L. Wright, S. H. Waddy. *Medical Jurisprudence:* D. A. Stegman, W. Carew, Veeravagu Katheravelu Paramanayagam, D. Mackay, G. Beveridge, L. H. Peries.

The following candidates, having passed the Final Examination, have been admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. and S.G.:

L. Samuels, W. F. Gawne, Lachman Singh Ahluwalia, A. K. Towers, V. A. Rankin, J. V. Griffith, G. A. Grandsoult, Q. Stewart, W. B. Watson, B. Cheifitz, R. I. Duggle.

Obituary.

DEPUTY SURGEON-GENERAL JAMES HOWARD THORNTON, K.C.B., Bengal Medical Service (retired), died at Hove on January 6th, the day before his 85th birthday. He was the son of Major James Thornton, of the 78th Foot, now the 2nd Battalion of the Seaforth Highlanders, the Ross-shire Buffs. He was educated at Chatham House, Ramsgate, and at King's College, London; he graduated B.A.Lond. in 1854 and M.B. in 1855, and took the diploma of M.R.C.S. the same year. He entered the I.M.S. on January 9th, 1856, having won the appointment of assistant surgeon, which was given to King's College for competition by Mr. W. H. Melville, one of the Directors of the East India Company. He became surgeon on January 9th, 1868, surgeon-major on July 1st, 1873, brigade surgeon on March 1st, 1882, and deputy surgeon-general on June 30th, 1886, retiring on August 13th, 1891. His service in India was spent alternating between civil employment in Bengal, where he held the civil surgeoncies of Shahabad (Arrah), Monghyr, and Bankura, and military duty. He had a very long record of war service: Indian Mutiny, 1857-59, action of Benares, relief of Arrah, capture of Jagdespur, action of Surajpur, defence of the Alambagh, outside Lucknow, capture of Lucknow, and operations in Oudh and Gorakhpur; was mentioned in dispatches in the *London Gazette* of October 13th, 1857, received

the Mutiny medal with two clasps, and a year's service for Lucknow. China 1860, action of Sinho, capture of the Taku forts, and occupation of Peking; medal with two clasps. North-East frontier of India 1862-63, Khasia and Janitia Hills campaign, wounded; mentioned in dispatches. Bhutan war, 1865–66, forcing of Durunga pass, capture and recapture of Dewangiri; medal with clasp. Egypt, 1882, medal and Khedive's bronze star. Soudan, 1885, Suakin, as principal officer of the Indian contingent; mentioned in dispatches, *London Gazette*, August 25th, 1885, clasp and C.B. North-West frontier of India, Hazara campaign of 1888, as principal medical officer; mentioned in dispatches, clasp. He received a good service pension on December 8th, 1886, and was created a K.C.B. on June 24th, 1904. He recorded his varied war services in a work entitled *Memories of Seven Campaigns*, published in 1895.

MAJOR MILES CHARLES CARISTON SETON, Australian A.M.C., who was shot in London on January 13th, was the representative in the male line of the family of Seton of Cariston, in Fife. He was born in 1874, and educated at Edinburgh High School and University, where he graduated M.B. and C.M. in 1900, also taking the diploma of F.R.C.S.Ed. in 1908. As a student he distinguished himself in athletics, and won the half-mile championship of Scotland. After graduating, he served as a civil surgeon in the South African Field Force and as a captain in the Cape Medical Staff Corps, and received the King's and Queen's medals. After the war he practised for some time at Calvinia, in Cape Colony, and, after a visit to Scotland, subsequently went out to Australia, where he was in practice at Melbourne, and honorary anaesthetist to the Alfred Hospital, Melbourne. In 1915 he joined the Australian Army Medical Corps, in which he served in Egypt and England, and was promoted to major towards the end of 1918.

CAPTAIN ALEXANDER GEMMELL, D.Sc., an analytical chemist employed in anti-gas research, has died as the result of experiments in atmosphere charged with poison gas. Captain Gemmell, after commanding the anti-gas school in the Scottish Command, was transferred in 1917 to the anti-gas department, London, and was engaged in research work under the late Lieut.-Colonel E. F. Harrison, C.M.G., whose lamented death took place early in November last, shortly after his appointment as Controller of the Chemical Warfare Department of the Ministry of Munitions.

PROFESSOR GUSTAVE BOUCHARDAT of Paris, well known for his researches on urea and sugar, died recently.

Medical News.

THE Belgian Government has appointed Professor Léon Frédéricq, of Ghent, who was imprisoned by the Germans for having declined to lecture in Flemish, to be rector of the University.

IT is announced that the medical university at Peking now being erected by the Rockefeller Foundation at a cost of £1,200,000 will be opened not later than next October. Another medical university will be built at Shanghai.

MR. T. P. GOSTLING, formerly chairman of the Worcester Division and president of the Worcestershire and Herefordshire Branch of the British Medical Association, who is retiring from practice for reasons of health, was recently the recipient of a presentation, at a large meeting in the Guildhall, Worcester, presided over by the Mayor. The parting gifts, presented on behalf of more than 200 subscribers by Lady Hindlip, consisted of an illuminated address, a service of plate, and a cheque, and a set of diamond earrings to Mrs. Gostling. The Mayor, on behalf of the citizens of Worcester, spoke of the appreciation and the love and affection they all had for Mr. Gostling as a man and a doctor. Mr. Gostling was for twenty years honorary surgeon to the Worcester General Infirmary, and on his retirement last December his medical colleagues presented him with a silver salver.

AT the meeting of the Medical Society of London to be held on Monday next at 8.30 p.m., a discussion on the modern treatment of gonorrhoea of the genito-urinary organs will be introduced by Colonel L. W. Harrison, R.A.M.C. He will be followed by Captain D. Thomson, Lieut.-Colonel R. Bolam, Major A. Cambell, Captain D. Lees, D.S.O., Captain David Watson, Mr. Campbell Williams, and others. Medical officers of the Colonial and Allied armies will be welcomed at the meeting.

A COURSE of four lectures on malaria will be delivered at noon on January 31st, February 7th, 14th, and 21st, in the Lecture Theatre of the Medical School, King's College Hospital, by Colonel Sir Ronald Ross, K.C.B., K.C.M.G., F.R.S., consultant in malaria at the War Office, and physician for tropical diseases, King's College Hospital. Officers and men of the Royal Army Medical Corps are invited to attend. Microscope specimens and lantern slides will be shown at the two last lectures.

A DISCUSSION on reconstruction in the teaching of obstetrics and gynaecology to medical students will take place at a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Thursday evening, February 6th. Dr. Walter Griffith will open the discussion by a general survey of the subjects to be taught and the methods of teaching them. Dr. J. S. Fairbairn will follow with a paper on the training of the student from the standpoint of preventive medicine, and Dr. Lovell Drage will deal with the teaching of the student from the point of view of a general practitioner. Further particulars can be obtained from the senior honorary secretary of the Section (1, Wimpole Street, W.1).

THE council of the Royal Society of Medicine has arranged to have a meeting every Wednesday evening for the reception of medical officers of the Home and Dominion forces, and of America and our Allies. If it can be arranged, each evening will be opened by a short informal discourse. The first of these will be given by Sir John Bland-Sutton on Wednesday, February 5th, at 8.30 p.m. He will speak on "Gizzards and counterfeit gizzards," illustrating his remarks by specimens. At these meetings visitors will be free to raise and discuss any question in which they are interested, but the social side of the evenings will be emphasized. Tea and coffee will be provided and smoking will not be forbidden.

WHAT is termed "a mass meeting of the medical profession" has been called by the National Medical Union, at Wigmore Hall, Wigmore Street, London, on Sunday, February 2nd. The chair will be taken by Professor William Russell of Edinburgh, at 4 p.m. It will be proposed to form a provisional committee to arrange for the election of a body representative of the whole profession to watch its interests, and to be prepared to act in an advisory capacity in connexion with prospective legislation and the proposed establishment of a Ministry of Health.

SPECIAL branches of the employment exchanges for both employers and employed in every neighbourhood have been set up to deal with discharged men only, and in many instances special sections for disabled men have been established. A great part of the work is carried on by men in the same position as those whom they are helping back to civil employment. Of the discharged men who take part in this work a considerable proportion are themselves disabled. The loss of an arm, a leg, two legs, and even eyesight has not been found an insuperable obstacle to efficient work if willing employers can be found.

LAST July the Carnegie trustees offered to establish and equip a central institute for maternity and child welfare in Edinburgh. At a meeting of the Provisional Committee on January 17th the draft constitution was submitted dealing with the membership and administration of the institute, which, it was suggested, should be called "the Scottish Carnegie Institute." Steps are being taken to find a suitable site for the building.

Sanidad y Beneficencia, the organ of the National Public Health Service of Cuba, issued a special number (July–August, 1918) as a homage to the memory of Carlos F. Finlay, the first propounder of the view that yellow fever is transmitted by a mosquito. Dr. Juan Guiteras and Professor Aristides Agramonte contribute biographical sketches on Finlay, Drs. Claudio Delgado and Jorge Le-Roy an account of his scientific work, and Drs. Le-Roy and Cassá a bibliography of his publications. The number forms a solid volume of 197 pages, containing a summary of the literature relating to the man and his discovery.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediocra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

QUERIES AND ANSWERS.

INCOME TAX.

SCOT inquires as to the method of adjustment of his assessment for 1918–19 in view of the fact that he sold his connexion and retired as from October 1st last.

*** "Scot" ceases to be liable to tax on his earnings as from October 1st, even though some accounts may be paid to him after that date—that is, he is liable for the first half of the financial year only. This does not mean that his correct liability is necessarily one half of the tax for the year, because his retirement would presumably reduce his total income for the year, and thereby might entitle him to a lower rate of income tax. He is adopting the correct course in informing the local surveyor of taxes of the facts, and the usual practice in such cases is, we understand, for the surveyor to compute the liability of the vendor of the practice for the first portion of the year and of the purchaser for the second portion, and arrange for the collector to apply to each person for his share of tax which is credited against the single assessment on the practice profits. We suggest that our correspondent might write to the surveyor again, and in the event of his again making no reply—which from our general experience would seem an unlikely contingency—an application for an adjustment of the assessment might perhaps be made direct to the Commissioners of Inland Revenue at Somerset House.

PUZZLED inquires as to liability to income tax in connexion with the sale of a house.

*** If the sale of the house is an isolated transaction, and the house was not bought with the intention of reselling, no liability to income tax attaches. If, on the other hand, a "profit" is realized, and the whole transaction was of the nature of a speculation made in the hope of profit, then our correspondent is apparently liable to income tax. Any expenditure on improvements would be legitimately deducted in calculating the profit on the selling price, as it presumably is, by the carrying out the improvements. In the instances mentioned the liabilities are—A *nil*, B *nil*, C £50.

LETTERS, NOTES, ETC.

THE process of demobilization is affecting members of the medical profession engaged in all types of practice; thus Major-General Cuthbert Wallace, C.B., C.M.G., surgeon to St. Thomas's Hospital, and Colonel Maynard Smith, C.B., surgeon to St. Mary's Hospital, having relinquished their appointments as consulting surgeons with the British armies in France, and Sir Nestor Tirard, physician to King's College Hospital, who has retired from the command of the 4th London General Hospital, have returned to civil practice.

TRANSPORT OF PATIENTS: DISINFECTION.

DR. J. LEWIS THOMAS (Tuberculosis Institute, Newport, Mon.) writes: Any one who has practised in a rural district has frequently been met by the difficulty of getting acute cases conveyed to the nearest hospital, and getting bedclothes and other infective material disinfected in septic cases. Would it not be possible to make use of the ambulance cars and disinfecting lorries which will shortly be available after demobilization? It would be a great waste to scrap these useful vehicles when they might be of much use in the future to obviate the difficulties mentioned.

THE TREATMENT OF ACUTE PNEUMONIA.

DR. F. TRESILIAN (Enfield) writes: The recent influenzal epidemic, which is now coming to a close, has given us fresh opportunities for seeing and treating acute pneumonia. I have tried various lines of treatment suggested at various times. The brunt of the epidemic in this district fell on the workers in factories and munitions, and on maid servants—that is, almost entirely on what one may call patients of the club and panel type. Owing to want of proper care and nursing, bad ventilation, dirty surroundings, and such contributory causes, most of the deaths were in the poorer class of houses; as one mounted upwards to better types of rooms, food, and nursing, one found a corresponding number of cases got well. A very great difficulty was to obtain any proper supply of suitable food, such as beef-tea, eggs, and milk and jellies. There were about eight deaths in my practice; two were in tuberculous persons with cavities of old standing, one was in a man discharged from the army for mitral and aortic valvular disease, but the compensation had been good, and he worked in a factory up to the day of his illness. All three of these cases died quickly. One death was in a child aged 2½, from empyema; the lung never expanded, though the pleural cavity drained thoroughly. One was in a man aged 80, with old mitral disease and failing ventricle.

I tried the much vaunted iodide and creosote mixture in two cases; they both died. It was commenced when the condition was diagnosed. Calcium chloride was tried in three cases, and they got better, but the best results I obtained were from a mixture of quinine and strychnine with syrup of orange or peppermint water. In two cases I added calcium chloride to this mixture. I think the combination of strychnine and quinine is the most trustworthy treatment of the present influenzal pneumonia, which is undoubtedly a mixed infection. In two cases I used pneumococcus serum (Wright). They both recovered. One was a creeping pneumonia of the right lung, secondary to a basal axillary focus in the left lung. The temperature kept up owing to the extension from one lobe to another for about sixteen days. During that time I gave four injections of serum, each being followed by a fall of temperature and corresponding improvement. I have only seen two cases of influenza develop pneumonia while they were in bed. They were both of a mild type, and did well. There are two distinct types: the sthenic or wild type, and the asthenic or quiet type. In the former morphine or opium are very useful. The quieting effect they produce is very satisfactory. Many years ago, when I was an assistant in Yorkshire, I found that the medical men there treated nearly all their cases of pneumonia with opium (gr. j, three or four times a day). But that was in pre-influenzal days. Ten grains of Dover's powder is still the most useful of all hypnotics in acute pneumonia, or gr. ⅛ of morphine.

PELVIC MEASUREMENT.

MR. WILLIAM R. MACKENZIE (Assistant Surgeon Samaritan Hospital, Belfast) writes: In the BRITISH MEDICAL JOURNAL of January 18th Mr. A. W. Bourne, F.R.C.S., in his interesting article on "Pelvic measurement in ante-natal clinics," states: "If measurement of the pelvis were a certain means of knowing the size of the brim, the examination and its judgement would present little difficulty, but unfortunately in the slighter degrees of contraction the measurements often give no true information," etc. May I refer him to "Remarks on roentgenographic pelvimetry," published in the BRITISH MEDICAL JOURNAL, June 1st, 1918, by which he will see that, having experienced the same difficulty with regard to uncertain measurements, I devised a method of pelvimetry which makes it possible not only to see the existence and extent of the pelvic contraction, both of the inlet and outlet, but also to measure its degree accurately, at the same time causing much less inconvenience to the doctor and patient?

LICENTIATES.

DR. J. C. MCWALTER writes from Alexandria to express the opinion that licentiates of the Colleges of Physicians and Surgeons should be given a voice in the management of college affairs. Any person holding a degree in a university has, he says, a share in its functions.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers